University of Alberta

The experience of physical activity in the lives of individuals with developmental delays

by

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Abstract

Individuals with developmental delays are at an increased risk for developing a number of health problems, many of which can be attributed to a sedentary lifestyle. Since participating in exercise programs has shown to have certain health benefits, incorporating these activities into one's daily routine is a viable solution to reduce many of these health risks. The objective of this study was to understand the role that physical activity plays in the lives of those with developmental delays. The qualitative research method utilized was basic interpretive, which is designed to understand the meaning that a particular experience holds for individuals (Merriam, 2002). This study will contribute to the existing literature by adopting a qualitative perspective and documenting the experiences of those with developmental delays as they recall them, which will provide a more comprehensive understanding of the role that physical activity plays in the lives of individuals with developmental delays.

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Chapter 1: Introduction to the Study

Nature of the Problem

Individuals with developmental delays, in contrast to individuals without disabilities, are at an increased risk for developing a number of different health problems. Researchers have demonstrated that the prevalence rate of cardiac conditions, mental health problems, endocrine problems, and obesity is higher among the developmentally delayed population (Bell & Bhate, 1992; Sutherland, Couch, & Iacono, 2002). Since many of these health problems have been identified as risk factors leading to increased mortality rates, understanding why these conditions are more prevalent among individuals with developmental delays is a key component to improving their quality of life.

Many of these health problems may be attributed, at least in part, to the sedentary lifestyle of individuals with disabilities. Children, adolescents, and adults with developmental delays in the community have been found to be significantly less active than individuals without disabilities. This lack of physical activity is associated with minimal levels of physical fitness and high levels of obesity, which in turn results in an increased probability of acquiring cardiovascular disorders (Carter, et al., 2004; Pitetti, Yarmer, & Fernhall, 2001). Individuals who engage in regular physical activity experience several benefits to their physical health, including reducing the risk of obesity, heart disease, and other future health problems (Lancioni & O'Reilly, 1998).

Moreover, children, adolescents, and adults with developmental delays tend to have lower levels of self-esteem and perceived self-competence than individuals without disabilities (Clever, Bear, & Juvonen, 1992). This can affect how they view their talents

and abilities and how they interact with others in their community. Individuals with developmental delays who engage in physical activity have been found to experience several benefits to their psychological well-being, including positive changes in self-concept, improved confidence, and decreased levels of depression, anxiety, and stress (International Society of Sport Psychology, 1992; Ninot, Bilard, Delignieres, & Sokolowski, 2000). Based on the difficulties that individuals with developmental disabilities face regarding their physical and psychological well-being, and the benefits derived from physical activity, it is extremely important that individuals with disabilities living in the community incorporate moderate levels of physical activity into their daily routines (Lancioni & O'Reilly, 1998).

There are several options available in the community for those interested in participating in physical activities, including recreational facilities, sports teams, and community leagues and programs. In addition, there are many individual activities that people can participate in such as walking, running, and biking. However, it is unclear how accessible community programs are for individuals who have a disability and how easily they are able to independently participate in physical activity. It is important to understand the barriers that individuals with disabilities face regarding physical activity so that they can be fully included and experience all of the associated physical and psychological benefits.

One option that is available to individuals with developmental delays is the Special Olympics, where they have the opportunity to train and compete in a variety of sports with other adults and children with disabilities. However, with the recent push for inclusion, many parents/guardians may prefer their children to participate in community

programs alongside their same-age peers without disabilities rather than in segregated programs available only to those with disabilities.

The advancement of inclusive practices is making it increasingly important to investigate the most effective ways to adapt recreational facilities and physical activity programs to ensure that they are accessible to all community members. Feedback from individuals with developmental delays and their families can be a valuable resource for those developing new programs or adapting existing ones. Their personal experiences can help others understand the barriers that must be overcome, and the features that must be incorporated to facilitate inclusion.

Purpose of the study

The objective of this study was to understand the role that physical activity plays in the lives of adolescents and adults with developmental delays. For this study, the term developmental delay was used to describe individuals identified as having moderate mental handicaps based on standardized assessment measures. The study investigates and compares the perspectives and experiences of those with developmental delays and their parents/guardians regarding their inclusion in physical activities. Participants and their parents/guardians shared their perspectives on the following topics: the perceived benefits of physical activity, the potential barriers that may restrict their participation, and the factors that facilitate their inclusion in physical activity. Adolescents and adults with developmental delays shared their stories so that we could understand how individuals experience physical activity across the lifespan.

Significance

The present study will contribute to the existing literature by adopting a

qualitative perspective and documenting the experiences of those with developmental delays as they recall them. This study will present the views and experiences of adolescents and adults with developmental delays, which will provide a more comprehensive understanding of the role that physical activity plays across the lifespan. There are relatively few studies that enable individuals with disabilities to share their perspectives and experiences concerning their inclusion and participation in physical activity. Participants and their parents/guardians will describe some of the barriers that they have faced and the factors that have facilitated their inclusion in physical activity. This study will provide information which families, support workers, and policy makers can utilize when developing community recreational programs.

Research Questions

This study was guided by the following two research questions: (1) How do individuals with developmental delays and their parents/guardians conceptualize the role that physical activity plays in their lives? and (2) What commonalities and differences exist among these experiences across the lifespan?

Chapter two presents a review of existing literature and research findings on the current health status of individuals with developmental delays and the potential benefits, barriers, and facilitators of physical activity for this population. Chapter three discusses the methods used in this study, including how participants were selected and interviewed and how data were analyzed. Chapter four introduces the prominent themes that emerged from the data and provides excerpts from the interviews that support each theme. The final chapter discusses what the prominent themes reveal about the experiences of individuals with developmental delays in physical activity. Themes were compared

between participants and parents/guardians as well as across age groups.

Chapter 2: Review of the Literature

A review of the research that has been conducted regarding the health status of individuals with developmental delays and their participation in physical activities is presented in the following chapter. Documenting the quantitative and qualitative research that has previously been conducted in the area helps us to understand the significance of the current study and how it contributes to the existing knowledge base. The chapter begins by discussing the current health status of children, adolescents, and adults with developmental delays. This establishes the need for some form of intervention to improve their physical and emotional well-being. Evidence regarding the physical and psychological benefits of physical activity helps to validate the argument that physical activity programs can improve the quality of life for individuals with developmental delays. Finally, the barriers that individuals with developmental delays face regarding physical activity and the factors that facilitate their participation will be reviewed so that we can understand which modifications have worked in the past and where improvements are still needed.

Health Status of Children with Developmental Delays

There is increasing concern about particular health related behaviors among individuals with developmental delays that may lead to increased health problems and increased mortality (Emerson, 2005). Children with developmental delays are more likely to be obese than are children without disabilities (Pitetti, et al., 2001). Pitetti et al. compared the body mass index (BMI) of children and adolescents with and without mild mental retardation. BMI is a commonly used indicator of an individual's body weight status, and of childhood obesity. An individual's BMI can also be used to predict whether

he or she will be obese during adulthood. BMI looks at the ratio between an individual's height and weight, and can be divided into three weight categories: obese (BMI $\geq$ 30), overweight (25 $\leq$ BMI < 30), and healthy weight (18.5 $\leq$ BMI < 25) (Yamaki, 2004). Pitetti et al. found that, on average, children with developmental delays had higher BMIs than non-disabled children. This finding is of concern because high BMIs and childhood obesity are a few of the many risk factors that are associated with adult heart disease, and other chronic disorders such as Type II diabetes, high blood pressure, and certain types of cancer.

Children with developmental delays not only tend to have higher BMIs than children without disabilities, but they also tend to have lower levels of aerobic fitness (Faison-Hodge & Porretta, 2004; Pitetti, et al., 2001). Pitetti et al. compared the aerobic fitness of children with mild mental retardation and children without disabilities. They used a 20-m shuttle run test to assess the children's field test performance and to predict their physical fitness. They found that the children with mild mental retardation completed less laps than children without disabilities. Therefore, they concluded that these children had lower exercise capacity, and lower aerobic fitness than their non-disabled peers.

Although children with developmental delays tend to have lower levels of physical fitness, recent studies have indicated that this may not be attributed to participating in physical activity at a lower frequency than other children (Faison-Hodge & Porretta, 2004). Faison-Hodge and Porretta compared physical activity levels of elementary students (aged 8-11) with mild mental retardation and students without disabilities who had either high or low cardio-respiratory fitness. They looked at physical

activity levels in two different school settings: in the physical education classroom and during recess. They assessed physical activity levels with the System for Observing Fitness Instructional Time (SOFIT), which is a direct observation tool for measuring student physical activity level, lesson context, and teacher behaviors, and has been validated for use with individuals with developmental delays. They found that all children were more active during recess than during physical education class, but that children with mild mental retardation and children without disabilities who had low cardio-respiratory fitness performed similarly in both contexts. It was concluded that because children with mild mental retardation had similar activity levels as non-disabled children with low cardio-respiratory fitness, they could be appropriately placed in regular physical education classes, and actively participate with other children at recess.

Faison-Hodge and Porretta's (2004) findings and conclusions differed somewhat from Pitetti et al.'s (2001). One possible reason for this discrepancy is that Faison-Hodge and Porretta measured the amount of physical activity that children with disabilities engaged in at school, whereas Pitetti et al. measured the children's physical endurance. Although children with developmental disabilities may engage in physical activity at the same frequency as their non-disabled peers, they may not participate at the same intensity. Therefore, to improve an individual's aerobic fitness it may not be sufficient to simply incorporate physical activity into their daily routine. It may also be important to ensure that these activities are intense enough to produce the desired cardiovascular benefits.

Health Status of Adolescents with Developmental Delays

As children with developmental delays mature into adolescence, the same health risks remain (Pitetti, et al., 2001). Similar to children, adolescents with developmental

delays are more likely to be obese than are adolescents without disabilities, which can lead to a host of health problems later in life. The Pitetti et al. study also looked at early adolescents (aged 11-14) and late adolescents (aged 15-18). Consistent with their findings for children, they found that adolescents with mild mental retardation tended to have higher BMIs than their non-disabled peers.

Adolescents with developmental delays also demonstrate similar levels of physical activity as children with developmental delays. Kozub (2003) investigated the physical activity patterns of adolescents (aged 16-25) with mental retardation over a seven day period. In particular, Kozub looked at the adolescents' motivation to participate in physical activities, their fitness level, and the amount of time they participated in physical activity. Kozub gathered this information through standardized scales, observations, and caregiver interviews. It was found that most of the adolescents engaged in a number of bouts of physical activity per day which lasted from 2 to 4 minutes. This pattern of physical activity is consistent with studies that looked at the physical activity of adolescents without disabilities.

Health Status of Adults with Developmental delays

Adults with developmental delays have a higher prevalence rate of cardiac conditions, endocrine problems, and obesity than adults without disabilities (Bell & Bhate, 1992; Sutherland, et al., 2002). Obesity is one of the most concerning health risks because it has high co-morbidity with cardiac conditions, diabetes, stroke, depression, respiratory diseases, hypertension, and endocrine problems (Yamaki, 2004). Melville, Cooper, McGrother, Thorp, and Collacott (2005) compared the BMI of adults with Down syndrome and adults without disabilities to investigate the prevalence of obesity in both

populations. This study was the only one that used a matched comparison group with regards to gender, age, and accommodation type (i.e., inpatient accommodation vs. community accommodation). Melville et al. found that both men and women with Down syndrome had lower weights and heights than men and women without disabilities, but that women with Down syndrome had a higher mean BMI than their matched counterparts. Men with Down syndrome, on the other hand, were no different in terms of BMI from their matched pairs. In terms of the weight categories described earlier (i.e., obese, overweight, and healthy weight), women with Down syndrome were more likely than women without disabilities to fall into the obese and overweight categories, whereas men with Down syndrome were more likely to be overweight, but were less likely to be obese than men without disabilities.

In another study, Yamaki (2004) investigated the BMI among adults with intellectual disabilities in the community compared to adults from the general population. Yamaki used data gathered through the National Health Interview Survey (NHIS) in the United States from 1985 to 2000, to document and compare the changes in body weight status among adults. The information gathered included general health status, medical conditions, limitations and impairments, and use of medical services. Information for individuals with intellectual disabilities who could not report on their own health status due to physical and cognitive limitations was provided by other adult household members. Since caregivers tend to be extremely knowledgeable concerning an individual's health status, these reports should not have affected the reliability of the results. Yamaki found that, compared to the general population, individuals with intellectual disabilities were more likely to be either obese or overweight. In particular, women and young adults with

intellectual disabilities were less likely to be a healthy weight than the general population. However, similar to Melville et al. (2005), men with intellectual disabilities had a lower proportion of individuals who were overweight than men without disabilities. Therefore, based on these results, intervention programs aimed at decreasing the prevalence of obesity in adults with developmental delays are warranted, especially for women and young adults.

Many of the health conditions observed in adults with developmental delays can result in shorter life expectancies and are caused, in part, by an inactive lifestyle (Sutherland, et al., 2002). Temple and Walkley (2003) investigated the physical activity of adults with intellectual disabilities who were living in a supported community group home. They generated their estimates of physical activity through diary recordings and accelerometers, which were gathered over a three day period. They found that the majority of the participants' time was spent in sedentary activities, and that only approximately one-third were meeting the daily requirement of moderate physical activity of 30 minutes. Temple and Walkley compared the activity levels of the participants to those recorded for the general community. These comparisons indicated that individuals with intellectual disabilities were less active than the general population and thus more susceptible to developing disorders associated with sedentary lifestyles.

In a similar study, Temple, Anderson, and Walkley (2000) investigated the physical activity patterns of adults with intellectual disabilities living in a group home. They documented physical activity levels through direct observations and accelerometer data over seven consecutive days. Temple et al. observed that on the average day, participants spent only 2 hours in light to moderate sport, leisure, or work related

activities. Similar to Temple and Walkley's (2003) study, only one-third of the participants met the daily requirement of moderate physical activity. However, because many participants preferred to walk as opposed to driving or taking the bus, they did observe that each participant met the recommended duration of physical activity, but not the recommended intensity. They concluded, therefore, that if individuals with intellectual disabilities living in the group homes were trained to walk at a faster intensity, they might meet the daily physical requirements. However, researchers have argued that individuals who live in more restrictive environments, such as group homes, tend to have lower BMIs and engage in more physical activity because it is incorporated into their programs (Yamaki, 2004). Therefore, because this study was based on participants who lived in group-based accommodations, the activity levels found may be higher than that of individuals with intellectual disabilities who live independently or with family members.

Benefits of Physical Activity for Individuals with Developmental delays

Previous research has documented several benefits that individuals with developmental delays typically experience by introducing physical activity into their daily routines. These benefits can be categorized as both positive psychological side effects, which can improve the psychological well-being of individuals with developmental delays and how they interact with others in their community, and positive physical side effects, which can improve the physical well-being of individuals with developmental delays.

Psychological benefits.

Individuals with developmental delays can experience several benefits to their

psychological well-being from engaging in physical activity, including positive changes in their self-concepts, improved perceptions of confidence, positive changes in mood, improved coping abilities, and decreased levels of depression, anxiety, and stress (International Society of Sport Psychology, 1992; Ninot, et al., 2000). This is important considering the fact that children, adolescents, and adults with developmental delays tend to have lower levels of self-esteem and perceived physical self-competence than individuals without disabilities (Cleaver, et al., 1992).

Shapiro and Ulrich (2002) examined the expectancies, values, and perceptions of physical competence of children with learning disabilities, and compared them to a matched group of children without learning disabilities. The children, aged 10-13 years, completed the Modified Pictorial Scale of Perceived Physical Competence and an expectancy-value questionnaire, which assessed a number of different factors such as perceived importance, usefulness, enjoyment, and gender orientation. They completed each measure in physical education class, school recess, and home contexts. Contrary to previous studies (i.e., Cleaver, et al., 1992), Shapiro and Ulrich found that there was no significant difference in perceived physical competence between children with and without learning disabilities.

Shapiro and Ulrich (2002) explained their results as a "proximity effect", which suggests that children compare themselves to others in their immediate environment. Students who are in inclusive classrooms, such as the children in Shapiro and Ulrich's study, compare themselves to their non-disabled peers. However, individuals with learning disabilities are more similar to their same age peers in terms of physical ability. Therefore, if children with developmental delays, who may not be as physically adept as

their peers, compare themselves with others in their inclusive classroom, their perceived physical competence may not be as high as those reported in this study.

Shapiro and Ulrich (2002) also concluded that the development of physical self-esteem and the perceived importance of physical activity are especially important when it comes to adolescent girls with learning disabilities. Girls are generally less active than boys and have lower perceptions of physical competence (Crocker, Eklund, & Kowalski, 2000). The low perceptions of physical competence held by adolescent girls with disabilities may lead them to withdraw from participating in sports and other physical activities, thereby compromising their physical health (Shapiro & Ulrich, 2002).

Gibbons and Bushakra (1989) examined the effects of participating in a Special Olympic track and field event on the perceived competence of children with developmental delays. It was hypothesized that participation in the Special Olympic event would improve the athletes' perceived competence and social acceptance. Study measures consisted of subscales of the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children administered before and after the event. The results indicated that children who participated in the track and field event achieved higher scores on the perceived physical competence and social acceptance subscales than children who did not participate in the event. Gibbons and Bushakra suggested that individuals with higher levels of perceived physical competence are more motivated to participate in physical activities, and tend to invest more time and energy in mastering the skills that facilitate their participation than are individuals with lower levels of perceived physical competence. Therefore, it is extremely important to develop ways to improve the overall self-esteem and the perceived physical competence of individuals with

developmental delays so that they will more readily participate in physical activity.

Adolescents with developmental delays who engage in physical activities appear to experience similar benefits as children (International Society of Sport Psychology, 1992; Ninot, et al., 2000). Wright and Cowden (1986) investigated the changes in self-concept experienced by adolescents with mild mental retardation after participating in a 10-week Special Olympic swimming program. Two groups of participants (one participating in the swim program and one adhering to their normal daily activities) were administered the Piers and Harris Children's Self-Concept scale on two separate occasions, once before the experimental group participated in the swim program and once after. Results indicated that the Special Olympic swim program contributed to significant improvements in self-concept. In addition to improvements in perceived self-confidence, physical activity can also provide a means for adolescents with developmental delays to interact with their peers and become integral members of their school and community (Gabler-Halle, Halle, & Chung, 1993). Therefore, it is important that they understand the role that physical activity plays in maintaining both a physically and socially healthy lifestyle.

Adults with developmental delays tend to have fewer friends, engage in fewer social activities, and experience greater levels of loneliness than adults without disabilities (Modell, Rider, & Menchetti, 1997). Engaging in physical activities in a community setting can provide adults with developmental delays more opportunities to develop social relationships and friendships with other members of their community, while at the same time gaining confidence and improving their overall self-concept.

Shapiro (2003) examined the sport participation motives of adult Special Olympic

athletes, using a combination of quantitative and qualitative methods. The participants were first given the sport motivation questionnaire and were then asked to explain why they selected their reasons. Their explanations were used to confirm that they understood the task that they were completing, to ensure that participants did not pick socially acceptable answers rather than their actual opinion, and to gain further insight into their motivation for participating in sports. The top five motivators for participating in sports were to win ribbons and medals, to play with other people on the team, to get exercise, to do something they are good at, and to have fun. These motivators can represent the particular benefits that individuals with developmental delays derive from engaging in physical activity. Winning ribbons and medals and doing something they are good at could contribute to gains in an individual's perceived physical competence, confidence, and self-esteem. Playing with other people on the team and having fun could help individuals develop social relationships and friendships with other members of their community. Finally, getting exercise could contribute to an individual's overall health by improving their cardiovascular endurance.

Physical benefits.

Children with developmental delays who engage in regular physical activity experience several benefits to their physical health, one of which includes reducing the risk of certain adult health problems (Lancioni & O'Reilly, 1998). One way in which physical activity can reduce these risks is by increasing cardiovascular fitness (Lancioni & O'Reilly). Chanias, Reid, and Hoover (1998) conducted a meta-analysis to determine the effects of physical activity on the health related fitness of individuals with intellectual disabilities. They looked at studies that included individuals diagnosed with intellectual

disabilities, had investigated exercise treatments independently of other health treatments such as nutrition, and had large sample sizes. They coded the studies with respect to the chronological age of the participants: children (≤ 12 years), adolescents (13-18 years), and adults (≥ 19 years). They found that the largest effect sizes for all groups were for increases in cardiovascular endurance, indicating that after implementing exercise treatments, researchers were finding increases in the participants' cardiovascular fitness, which could potentially reduce their risk of particular health problems later in life.

Regular physical activity also enables children with developmental delays to participate more fully during play periods with their peers. Faison-Hodge and Porretta (2004) investigated the physical activity levels of students with mild mental retardation and compared them to non-disabled students with high and low cardio-respiratory fitness. They looked at the physical activity levels of students both at recess and during physical education classes. They found that non-disabled students with high cardio-respiratory fitness were more active in both of these settings than the two other groups. Although there was no difference observed between the non-disabled students with low respiratory fitness and the students with mild mental retardation, both groups could not fully participate in the activities because of their limited endurance. Results indicate that it is important to find a way to improve the cardiovascular fitness of children in both of these groups so that they can sustain a higher level of activity for a longer period of time without tiring.

Sports and other competitive activities play an important role in the lives of many adolescents, both with and without disabilities, and is one of the primary means in which they incorporate physical activity into their lives (Zoerink & Wilson, 1995). These types

of activities typically comprise of extensive training and practice, which can have a significant impact on one's level of physical fitness. Wright and Cowden (1986) investigated the changes in cardiovascular endurance of youths with mental retardation who participated in a 10 week Special Olympic swim training program. They used a 9-minute run/walk test to measure the cardiovascular endurance of the youths who participated and compared their scores with a control group of youths with mental retardation who adhered to their normal physical activity routine for the same time period. They found that the adolescents who had participated in the Special Olympic swim training program demonstrated a significant increase in cardiovascular fitness in comparison to the adolescents who adhered to their normal routine. However, Wright and Cowden did not report the extent to which the control group incorporated physical activity or exercise into their normal routine. Therefore, it is difficult to know whether the participants' cardiovascular endurance was compared with adolescents who did not engage in physical activity at all, or who engaged in physical activity, but simply not with the Special Olympic program.

In a similar study, Riggen and Ulrich (1993) investigated the physical abilities of individuals with mental retardation who participated in the traditional Special Olympic basketball program, the Unified Special Olympic basketball program, which is an integrated program, and those who did not participate in either program. They compared changes in both the participants' basketball skills and cardiovascular fitness. Cardiovascular performance was estimated with the 1-mi run/walk test, while basketball skills were measured with the Basketball Skills Test of the Special Olympics. Riggen and Ulrich found that individuals who participated in either the integrated or the traditional

Special Olympic program demonstrated higher increases in cardiovascular endurance than individuals who did not participate in the programs. In addition, they found that individuals who participated in the Special Olympic programs improved their basketball skills. However, the latter changes could not be compared to the control group because individuals in this group were not administered the Basketball Skills Test of the Special Olympics. These findings support previous studies (i.e., Wright & Cowden, 1986) suggesting that adolescents with mental retardation who participate in Special Olympic programs may experience increases in cardiovascular fitness. However, with the exception of the previous studies, research concerning the benefits of everyday physical activity for adolescents with developmental delays is scarce. Therefore, it is difficult to conclude whether adolescents with developmental delays who participate in physical activity outside of the Special Olympics can achieve similar benefits.

Most of the research concerning the benefits of physical activity for individuals with developmental delays has been conducted using adult populations (i.e., Carter, et al., 2004; Goodwin & Compton, 2004; Podgorski, Kessler, Cacia, Peterson, & Henderson, 2004). The purpose of much of this research was to evaluate the implementation of physical activity interventions. By engaging in structured exercise programs, adults with developmental delays can improve their cardiovascular endurance and strength, and can decrease their risk of developing certain health problems that can have a detrimental impact on an individual's overall physical health (Carter, et al., 2004). In addition, these studies reveal the feasibility of support workers integrating these programs into the daily lives of those living in supported environments in order to improve their overall health.

Podgorski et al. (2004) implemented a pilot project to introduce physical activity

to adults with intellectual disabilities who attended a day habilitation setting. Study goals were to determine whether the program could positively impact the physical functioning of the adults, whether the population would choose to participate in the physical activity programs, and whether the support staff could sustain the program after the pilot was concluded. The intervention program, which extended over a 12-week period, consisted of warm up activities, a physical movement segment, strength training, and cool down activities. The researchers conducted a number of different baseline evaluations for strength, range of motion, and mobility. They administered the physical evaluations after the 12-week program concluded and again at a one-year follow-up. They found after the intervention that exercise was a popular activity choice among the participants, that the majority of the participants improved in at least one domain of physical functioning, and that the participants maintained these improvements one year after the intervention. However, these results were found in a segregated setting that served adults with intellectual disabilities. Given the importance of inclusion of individuals with disabilities in community life, it is necessary to evaluate programs that have been implemented in inclusive recreation settings as well.

Carter et al. (2004) evaluated an exercise program that was implemented for adults with developmental delays living in the community. They examined both the feasibility as well as the success of the program. The exercise program consisted of cardiovascular activities and weight training, and took place in a community recreation center. The researchers assessed a number of indicators of cardiovascular fitness (i.e., weight, systolic and diastolic blood pressure, resting heart rate, total cholesterol, and blood sugar levels) before and after the 11-week exercise intervention. This study

supported previous research which associated physical activity with decreases in body weight, blood pressure levels, and resting heart rate. In addition, the analysis of recorded participation times and participant narratives indicated that each of the 11 participants increased their physical endurance (duration of time participating), and were able to move between, and operate, machinery more independently. These results suggest that with proper adaptations, individuals with disabilities can participate in community recreation programs alongside the general public. This could contribute not only to their physical health, but also to their emotional well-being.

As individuals with a disability age, their ability to engage in physical activity becomes even more challenging because the difficulties they experience due to their disability are compounded with the difficulties inherent in the natural aging process. Goodwin and Compton (2004) examined the experiences of physical activity for adults who are aging with a disability using hermeneutic phenomenological methods. These methods offer a descriptive, reflective, interpretive evaluation of an everyday experience, and seek to understand the essence of an individual's life experience. They conducted in-depth interviews with six adult women aged 22-37 with physical disabilities. When analyzing the interviews, the researchers identified three common themes: experiencing something normal, loss of physical freedom (i.e., the importance of remaining independent and the apprehension of requiring support prematurely), and maintaining function through physical activity. The use of qualitative inquiry can add a different element to the existing research; therefore it would be interesting to employ similar methods to study the physical activity experiences of males and females across the lifespan who have a developmental delay.

Based on the numerous health problems that impact individuals with disabilities, and the benefits resulting from physical activity, one possible solution to overcome these health issues is to develop community based programs that enable developmentally delayed individuals to participate in physical activities on a regular basis. However, establishing these programs may not be a simple task.

Barriers to Physical Activity

Although researchers have demonstrated the importance of physical activity in terms of its physical and psychological benefits, several barriers that inhibit individuals with disabilities from participating in community exercise programs and physical activity still remain (Messent, Cooke, & Long, 1999; Messent, Cooke, & Long, 1998; Rimmer, Riley, Wang, Rauworth, & Jurkowski, 2004). Messent et al. (1999) conducted interviews with adults with learning disabilities and residential care workers to determine whether individuals with disabilities receive adequate support to lead a healthy lifestyle. The interviews focused on their daily activities over the previous week, which activities they enjoyed and which they disliked, and their beliefs towards physical activities and health. Participant responses were verified through interviews with residential care workers. Barriers identified were unclear policies that guide community recreation services, lack of funding for recreation activities, insufficient staff at community centers, limited resources of those wishing to participate in community activities, lack of transportation to and from the facility, and limited selection of physical activities.

In a similar study, Messent et al. (1998) determined physical activity profiles for adults with learning disabilities who attended day or residential care settings, and compared them to the general population and the recommendations for daily physical

activity. They conducted interviews with the participants, verified by residential care workers, asking them to recall their activity level over the previous seven days. Responses were classified according to the activity that they participated in. They found that the physical activity profiles of the participants indicated a greater degree of sedentary lifestyles in comparison to the general public and participants failed to meet the daily recommended levels of physical activity set by the Department of Health. However, in the interviews, participants indicated that they could not engage in physical activities, such as swimming in the public pool and running, without adequate support.

The previous two studies investigated the barriers to physical activity identified by individuals with learning disabilities. However, the barriers affecting individuals with developmental delays in community settings may be slightly different. Rimmer et al. (2004) conducted a number of focus groups with individuals with developmental delays who use recreation facilities, architects, fitness and recreation professionals, city planners, and park district managers. Barriers were identified in 10 different areas: (1) barriers in the built and natural environment (i.e., lack of curb cuts, inaccessible routes); (2) cost/economic barriers (i.e., membership and transportation costs affect their ability to access recreation facilities); (3) equipment-related barriers (i.e., lack of adaptive or accessible equipment); (4) barriers related to building codes, and other guidelines (i.e., interpretation, implementation, and effectiveness of building codes); (5) information-related barriers (i.e., lack of information regarding available and accessible facilities and programs in the community); (6) emotional and psychological barriers (i.e., unfriendly environments in the recreation facilities); (7) perceptions and attitudes related to accessibility and disability (i.e., negative attitudes toward persons with disabilities); (8)

policies and procedures (i.e., recreation facilities lack policies that are relevant to persons with disabilities); (9) professional knowledge, education, and training issues; and (10) lack of resources (i.e., lack of transportation and accessible facilities). The degree to which individuals with disabilities can participate in community recreation programs may be limited by a combination of these barriers. In order for these barriers to be reduced, policy makers and community members must be willing to make accommodations which facilitate the participation of individuals with disabilities in community recreation programs.

Another possible barrier that may cause individuals with developmental delays to avoid participating in physical activities is their own skill level. Individuals with little skill in athletic activities may avoid situations in which they must perform physically. Alternatively, if individuals face negative reactions from others when they participate in certain physical activities, they may become discouraged and avoid participating in the future. Zoerink and Wilson (1995) found that children with mental retardation were perceived to be less competent in sports by their peers, and were selected less frequently to participate in games. The negative reactions from their peers may lower the perceived confidence of individuals with developmental delays, which may contribute to their sedentary lifestyle.

Overcoming the Barriers: The Special Olympics

Although individuals with developmental delays may experience barriers with regards to participating in exercise programs within the community, they have the option of participating in Special Olympic programs with other individuals with disabilities. The goal of the Special Olympics is to provide the opportunity for athletic training and

competition in a variety of different sports to all adults and children with mental retardation or other disabilities (Klein, Gilman, & Zigler, 1993). Since individuals with developmental delays have fewer opportunities to participate in social activities, they report fewer social friendships and higher incidences of loneliness (Modell, et al., 1997). The Special Olympics provides the chance to participate in social activities, develop social competence, develop reciprocal friendships, and become integral members of the community (Dykens & Cohen, 1996; Farrell, Crocker, McDonough, & Sedgwick, 2004).

Gibbons and Bushakra (1989) studied changes in perceived confidence, measures of physical and cognitive ability, peer acceptance, and maternal acceptance of participants enrolled in a one and a half day Special Olympic track and field event compared to non-participants. Study measures consisted of subscales of the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children before and after the track and field event. It was hypothesized that participation in a Special Olympic event would improve the perceived competence and social acceptance of individuals with mental retardation. Results confirmed these hypotheses, suggesting that children who participated in the track and field meet showed significant improvements on the physical subscale of perceived competence and on peer acceptance over children who did not participate. Individuals who reported higher levels of peer acceptance may be more confident in their peer relationships, thereby increasing the number of reciprocal friendships they develop and the extent to which they feel included in their community.

The Special Olympics also gives athletes the opportunity to develop increased physical fitness and athletic skills by participating in events that are designed to match their developmental level, while at the same time challenging them to extend their limits

(Gibbons & Bushakra, 1989). Draheim, Williams, and McCubbin (2003) investigated the differences in cardiovascular disease risk factors between active Special Olympians, active non-special Olympians, and inactive non-special Olympians. They looked at a number of different indicators of cardiovascular disease, such as resting blood pressure, total and abdominal body fat, fasting cholesterol profiles, and fasting insulin. They observed that active Special Olympians had lower diastolic blood pressure, body and abdominal fat percentages, triglycerides, and insulin levels than inactive non-special Olympians, and possessed lower body fat percentages than active non-special Olympians. These results suggest that the degree and intensity to which active Special Olympians engage in physical activity is sufficient for eliminating the risk factors associated with cardiovascular disease. Therefore, it is important that individuals with developmental delays are encouraged to participate in Special Olympic programs.

Riggen and Ulrich (2001) compared changes in actual physical abilities among individuals participating in a traditional Special Olympic basketball program and the new Unified Special Olympic basketball program, which is an integrated program where individuals with disabilities play and compete with their non-disabled peers. Basketball skills were measured with the Basketball Skills Test of the Special Olympics prior to and after the 12-week training program. They found that individuals who participated in either the integrated or the traditional Special Olympic program improved their basketball skills. When individuals have greater athletic skills they are more likely to continue participating in the activity (Zoerink & Wilson, 1995). Therefore, Special Olympic programs that increase an individual's skills are likely to influence an individual's motivation to participate and increase the benefits that they derive from their participation.

Special Olympic programs are also believed to be beneficial in terms of improving the athletes' self-concepts. Participating in Special Olympic events contributes to the development of positive social competence and acceptance, physical self-confidence, and community self-sufficiency. These domains of self-concept are believed to improve through participation in competitive events as a result of the sense of accomplishment that comes with completing a challenging task (Weiss, Diamond, Demark, & Lovald, 2003). Developing increased levels of perceived competence and self-concept may help individuals to become more confident in their athletic skills, thereby motivating them to continue participating in competitive events and attempting different kinds of athletic activities (Gibbons & Bushakra, 1989).

Weiss et al. (2003) examined the relationship between the level of physical activity inherent in the Special Olympics and the self-concepts of individuals with developmental delays who participate in these programs. The components of self-concept that they studied were perceived physical competence, social acceptance, and general self-worth. Ninety-seven individuals with developmental delays who participated in Special Olympic programs and their parents were interviewed. They found a number of factors that influence self-concept including the amount that athletes participate, the length of time that athletes were affiliated with the organization, and the number of medals that the athletes won. The influence that Special Olympic programs have on individuals with developmental delays highlights the importance of competition and participation in sports. Research in this area can assist in the development of models indicating how physical activity programs can be implemented to increase the participation of individuals with developmental delays. Increasing participation can help

individuals with disabilities experience the psychological and physical benefits associated with physical activity.

The new Unified Special Olympics brings individuals with disabilities together with those without disabilities, which allows athletes to further broaden their social contacts and develop social skills (Riggen & Ulrich, 1993). The Unified Special Olympics helps to promote community understanding and acceptance of those with mental retardation, which is viewed by many as a major benefit of the program (Klein, et al., 1993). With the increased pressure to promote inclusive environments, creating programs that advocate both physical health and community inclusion is becoming more and more important.

Overcoming the Barriers: Inclusive Recreation Programs

Advocates for individuals with disabilities have attempted to develop programs within the community that increase the accessibility of physical activities and promote healthy living. Inclusive recreation programs incorporate adequate accommodations, such as welcoming atmospheres, transportation services, special technology, and staff training, which allow individuals of varying capabilities to participate in physical activities and benefit physically, psychologically, and socially (Carter, et al., 2004; Lancioni & O'Reilly, 1998).

Duvdevany (2002) examined whether individuals with an intellectual disability who participated in an integrated recreation program had higher levels of self-concept and adaptive behavior than those who participated in a segregated recreation program. Duvdevany selected participants between the ages of 14 and 60 who were currently participating in recreation activities in community centers for the general public and a

comparison group who were currently participating in recreation activities in a special social club for individuals with intellectual disabilities. They administered to both groups of participants the Tennessee Self-concept Scale, Second Edition and the Adaptive Behavior Scale-Residential and Community, Second Edition. The hypothesis that individuals who participate in integrated recreation programs would have higher self-concepts than individuals who participate in segregated recreation programs was confirmed. In addition, participants in the integrated recreation program expressed more satisfaction with their self-concept than participants in the segregated recreation program.

Participating in inclusive recreation programs with individuals with and without disabilities enables those with developmental delays to acquire necessary social interaction skills and to develop more extensive social networks. Furthermore, individuals without disabilities demonstrate more acceptance and positive attitudes towards individuals with disabilities after participating in inclusive recreation programs (Modell, et al., 1997).

For initiatives aimed at increasing the accessibility of inclusive community recreation programs for individuals with disabilities to succeed, it is first necessary to develop models indicating how physical activity programs can be implemented to increase the participation of individuals with disabilities. Fennick and Royle (2003) attempted to create such a model by implementing a pilot project aimed at including children and youth with developmental delays in community recreation programs with their non-disabled peers. The project consisted of training activity coaches to use individualized accommodations and assist children to participate in the activities for which they registered. The activity coaches kept a daily log of the sessions, and these

were used along with surveys from the parents and activity coaches to evaluate the effectiveness of the program. Fennick and Royle observed that children and youth with disabilities who participated in either swimming or gymnastics classes at individualized levels expressed enjoyment in the activities and improved their skills. However, the level of participation varied depending on the class. Fennick and Royle identified certain limitations which affected the number of individuals who could access the program. It was concluded that changes needed to be made with regards to the training of activity coaches so that they received adequate information about disabilities and accommodations, the times that the program are offered to increase accessibility, the selection of available programs, and the communication about the program to culturally diverse groups. This study provided valuable insight into how community programs must be continuously assessed to ensure that they are accessible, effective, and inviting.

Although inclusive recreation programs may appear to be the ideal setting for children with disabilities to engage in physical activity, parents who have a child with a disability may be hesitant because of problems that have typically been associated with these types of programs. Some of these problems include a lack of adaptive or accessible programs and equipment, a lack of knowledge on behalf of the staff about disabilities and how to adapt activities, and the negative attitudes towards persons with disabilities from staff and community members. Therefore, including children with a developmental delay in family recreation activities may appear to be a more attractive alternative (Mactavish & Schleien, 1998). Mactavish and Schleien looked at the benefits that families experience when including their child with a developmental delay in family recreation activities. Their research, grounded in the naturalistic paradigm, used survey and interview methods.

Results revealed that inclusive family recreation activities were viewed as a positive means to promote the quality of family life and family values, and to teach family members the skills for healthy living, such as recreation, physical, and social skills. These benefits were deemed to be even more important for their child with a developmental delay.

It is important to note that the above research looked solely at the benefits of family recreation activities and failed to address any negatives associated with family recreation. In addition, this study, like many others, failed to address the topic of physical activity from the perspective of the individual with the disability. This perspective could provide further insight into the role that physical activities play in the life of an individual with a developmental delay. Finally, it is important to stress that although family recreation is important, it is also necessary for children with developmental delays to participate in community activities in order to gain a greater sense of how they fit into the larger community, and to gain friendships with typically developing peers.

Summary

The bulk of the research conducted in this area has been quantitative in nature and has focused on the measurable results of physical activity such as improved cardiovascular fitness, reduced BMI, or increased levels of self-esteem. The qualitative research that has been conducted has tended to look at the perspectives of parents or recreation support staff as opposed to the perspectives of those with the disability who are engaging in the activities. Furthermore, past research has looked primarily at the experiences of individuals with learning disabilities in physical activity. Since individuals with developmental delays may have different experiences, it is also important to hear

their stories. The current study will contribute to the existing literature by adopting a qualitative perspective and documenting the views and experiences of adolescents and adults with developmental delays as they recall them, which will provide a more comprehensive understanding of the role that physical activity plays across the lifespan.

Chapter 3: Methods

The method that was used in this study was basic interpretive qualitative research. Basic interpretive research is a paradigm designed to understand and explain the meaning that a particular experience or phenomenon holds for those involved (Merriam, 2002). One of the underlying premises of most qualitative research is constructionism. This premise suggests that meaning is not discovered or inherent in the particular object or event, but rather is socially constructed by individuals through interaction with the environment (Merriam). Therefore, the meaning construed from a particular phenomenon may vary across individuals because one's reality is influenced by past experiences.

Basic interpretive research draws from both phenomenology and symbolic interactionism, two qualitative research paradigms that seek to interpret the social world. Phenomenology is the study of lived experiences, or the lived world, and searches to gain a fuller understanding of the meaning or essence of everyday activities (van Manen, 1990). Symbolic interactionism, on the other hand, attempts to understand society by focusing on the interactions that occur between individuals. What distinguished basic interpretive research from these two methods, and made it appropriate for this particular study, is that the primary goal is to simply determine how individuals interpret their experiences and to understand the meaning of these experiences as opposed to determining the essence or structure of the phenomenon.

Participant Selection

Ten adolescents and adults and their parents/guardians who were participants in a larger research project, *Inclusion Across the Lifespan*, were identified for inclusion in the current study. The purpose of the larger project was to understand how individuals with

developmental delays perceive their inclusion in family, community, and recreational activities. Participants were identified as having moderate mental handicaps based on a standardized assessment and were divided into six different age categories: 3-6 years, 7-12 years, 13-17 years, 18-30 years, 31-50 years, and 51 plus years. The study was concurrently conducted in both Alberta and Prince Edward Island to allow researchers to compare and contrast the different experiences of individuals with developmental delays in two Canadian provinces. To recruit participants for the *Inclusion Across the Lifespan* project researchers distributed information packages to all families registered with the Alberta Association of Community Living as well as to respective school systems, sheltered workshops, and group homes (See Appendix A for information letters and informed consent forms). For the current study, archival data obtained through interviews with ten participants and their parents/guardians residing in Alberta were utilized to investigate the experiences of individuals with developmental delays in physical activities.

Qualitative researchers select participants for their studies differently than quantitative researchers. While quantitative researchers strive to randomly select participants that are representative of the entire population of interest to facilitate generalizability, qualitative researchers employ purposeful sampling to select participants whose experiences most closely reflect the researcher's area of interest (Morse & Richards, 2002). Selecting participants who are "experts" in the area can provide researchers with a greater understanding of how individuals experience a particular phenomenon. During preliminary interviews, participants from the *Inclusion Across the Lifespan* project were asked questions pertaining to their involvement in physical activities. During follow-up interviews, all participants 13 years and older were asked

more extensive questions relating to their experiences in physical activities. Interviews with the ten individuals who were able to provide the most detailed accounts of their experiences in physical activity and reflect upon the role that physical activity plays in their lives provided the data base for the current study.

One particular approach to purposeful sampling is what Patton (1989) called, "maximum variation" sampling. Maximum variation sampling consists of selecting a wide range of participants from a variety of settings. This sampling technique enables more people from the population to relate to the experiences expressed by the participants, which make the stories more meaningful to the reader (Seidman, 1991). The participants who were selected for the current study represented a broad spectrum of informants. The participants included both males and females, although there was a higher representation of male participants with seven. They had a wide variety of developmental delays ranging from Down syndrome, to brain injury, to global developmental delay. Although participants in the *Inclusion Across the Lifespan* project had disabilities of varying severities, participants included in this study tended to have disabilities in the mild to moderate range. Participants also represented different age groups ranging in age from 14 to 58. The specific breakdown of the ages was as follows: two of the participants were in their early teens, two in their late teens or early twenties, two in their late twenties or early thirties, two in their mid to late thirties, and two in their mid to late fifties. Finally, the degree to which the participants were involved in physical activity ranged from minimal to substantial participation and involvement in Special Olympic programs. In addition to representing a wide spectrum of characteristics and personal experiences, the participants in the current study were also drawn from a variety of settings. Participants

resided in both urban and rural locales and lived in a variety of different home environments ranging from their family home, to group homes, to independent residences.

Interview Process

The most common tool utilized by qualitative researchers to gather data is the qualitative interview (Mason, 2002). There are several different interview formats used in qualitative research depending on both the research question and the intended methodology (Morse & Richards, 2002). One type of interview format used in qualitative research is the semi-structured interview. Semi-structured interviews are employed when the researcher has enough prior knowledge on the topic to construct a set of questions prior to the interview. However, there are enough gaps in the researcher's knowledge base to prevent them from anticipating how the participants will respond to the questions (Morse & Richards, 2002). Therefore, the researcher is still learning from the experiences of the participant thereby enhancing their knowledge of the topic. Semi-structured interviews provide the researcher with more flexibility than structured interviews or surveys regarding how and when the questions are asked, but they provide enough structure and stability to promote comparability across participants by standardizing the kinds of questions that are asked during each interview (Shank, 2006).

Due to the nature of the present research, a semi-structured interview format was chosen to guide the conversation and to ensure detailed accounts of the participants' experiences. Participants and their parents/guardians independently participated in two semi-structured interviews. Each interview with the participants contained a component that focused on how they perceive their involvement in physical activity and the role that physical activity plays in their lives. Interviews with the parents/guardians were used to

verify participants' responses. In the first interviews, participants and their parents/guardians were each asked several introductory questions concerning their inclusion in everyday activities including general questions pertaining to their involvement in exercise and other forms of physical activity. They were also asked whether or not they participated in Special Olympic programs. In the second interview, participants and their parents/guardians were asked more specific and in-depth questions regarding how they perceived their inclusion in different family, community and recreational activities. These questions were followed by those that dealt directly with the role that physical activity plays in their everyday lives. Specifically, they were asked questions regarding the perceived benefits of physical activity, how friends and family supported their participation, factors that facilitated their participation, such as services available in the community, and the possible barriers that inhibited their participation (see Appendix B for complete interview protocols). For the current study, archival data from each of the two of interviews was utilized to investigate the experiences of individuals with developmental delays in physical activities.

Dependability, Credibility, and Transferability

Reliability, validity, and generalizability are considered by many to be the three pillars of scientific research. In a sense, reliability, validity, and generalizability are the, "established measures…for assessing the quality, rigor and wider potential of research" (Mason, 2002, p. 38). However, these concepts are more commonly associated with quantitative or positivist research (Morse & Richards, 2002). Dependability, credibility, and transferability have become acceptable alternatives to these concepts among qualitative researchers

Instead of striving to achieve reliability, qualitative researchers seek to establish dependability or consistency (Merriam, 1995). In order for data to be dependable, the researcher must demonstrate that they know where the data in the study have come from, how the data were collected, and how the data were used. Therefore, the key to obtaining dependability is to demonstrate that the results of the study are consistent with the data collected (Merriam). Two of the strategies that researchers can employ to obtain dependability are triangulation and audit trails (Merriam). Triangulation refers to using multiple sources, methods, and investigators to obtain data. Triangulation can be used by researchers to increase their confidence that the data they collected accurately reflect the situation and the experiences of the participants. Audit trails are used to ensure that the connection between the data that were collected and the ways in which the data were used is clear. The researcher records in detail all the decisions made along the way such as how the data were collected and how the categories were created (Merriam).

Lincoln and Guba (1985) used the term credibility to represent how qualitative researchers strive to achieve validity. Credibility refers to the degree to which we can trust or believe in the research findings (Shank, 2006). There are many strategies that qualitative researchers can use to increase the credibility of their findings. For example, methods used to obtain dependability, such as triangulation, can also be used to establish credibility.

Instead of generalizability, Lincoln and Guba (1985) recommended using the term transferability, which is the degree to which the results from the present study can be applied or transferred to different situations, settings, and populations. Two strategies utilized to achieve transferability are thick description and multi-site designs (Merriam,

1995). Thick or detailed descriptions occur when the researcher provides enough information about the process, such as the research setting and participants, so that the reader can make an informed decision about whether or not the findings are transferable to other contexts. Using multi-site research designs, such as selecting participants with a variety of experiences who come from a variety of settings will facilitate the application of the findings to a wider range of settings and populations.

To achieve dependability and credibility the current study utilized two different techniques. Multiple sources were accessed to obtain data, thereby demonstrating both dependability and credibility through the process of triangulation. Both participants and their parents/guardians were asked questions regarding the participants' involvement in physical activity. The interviews with the parents/guardians were used to verify the findings derived from the interviews with the participants and to ensure that the data collected accurately reflected their experiences in physical activity. Finally, an audit trail documenting how the data were collected and analyzed was created, providing an additional source to demonstrate the dependability of the data.

To achieve transferability, the characteristics and experiences of the participants, as well as the methods used to collect the data have been described in detail. This enables readers to decide whether or not the current findings can be applied to other contexts and with other individuals. In addition, the use of a multi-site research design, which included selecting a wide range of participants from a variety of settings, ensures that more people may be able to relate to the experiences expressed by the participants.

Analysis of the Data

In the present study, a thematic analysis of the data obtained by the participant

interviews was conducted to relate the experiences of individuals with developmental delays in the area of physical activities. The interview transcripts were analyzed for themes that reflect the experiences of the participants. The NUD*IST software program was used to help assign codes to the data and to identify and organize the themes and patterns that emerged from the interviews. Each sentence of the transcript was closely examined to determine what it revealed about the physical activity experience. Each unit of meaning was assigned a code or label describing the unit. Codes with similar meanings were then clustered together allowing emerging themes to be identified. Recurring themes and experiences that emerged from the four age groups were compared and contrasted to provide an indication of how individuals with developmental delays are included in physical activity throughout the lifespan.

Chapter 4: Results

In this chapter the prominent themes that emerged from the data are identified regarding the experiences of individuals with developmental delays in various forms of physical activity. A thematic analysis of the participant and parent/guardian interviews was conducted and the themes were closely examined to determine what they reveal about the physical activity experience. Parents/guardians were asked questions so that the themes emerging from their interviews could be compared and contrasted to those that emerged from the participant interviews. The themes are organized into three main categories: perceived benefits of physical activity, factors that serve as potential barriers to the inclusion of individuals with developmental delays in physical activity, and factors that help individuals overcome these barriers and facilitate their inclusion. In addition, a fourth category comprising of themes that emerged regarding the participants' involvement in Special Olympic programs is also presented, with particular emphasis on the perceived benefits and drawbacks of the programs.

The thematic analysis resulted in eight main themes. Each main theme is accompanied by a number of sub-themes. The first three themes (i.e., **Social Benefits**, **Psychological Benefits**, and **Physical Benefits**) fall under the main category perceived benefits of physical activity. The next two themes (i.e., **Internal Barriers** and **External Barriers**) fall under the category potential barriers to physical activity. The third category, **Facilitators of Physical Activity**, serves as its own theme and is accompanied by three sub-themes. Finally, the last two themes (i.e., **Benefits of Special Olympics** and **Drawbacks of Special Olympics**) both fall under the fourth category, Special Olympics participation. A summary of the four main categories, and the subsequent themes and

sub-themes is presented in Figure 1. Since not all themes were identified by both groups, an X will be used to indicate the presence of a theme, and a dash will be used to indicate the absence of a theme. A detailed description of each theme follows. To further simplify the discussion of the prominent themes, all main themes will appear in bold, whereas all sub-themes will appear in italics.

Figure 1. Summary of Prominent Themes.

	Participants	Parents/Guardians
BENEFITS OF PHYSICAL ACTIVITY		
Social Benefits		
Acceptance and inclusion	X	X
Time with friends	X	--
Social connections	--	X
Enhanced social skills	--	X
Psychological Benefits		
Increased confidence	X	X
Increased independence	X	--
Stress relief	X	--
Sense of normalcy	--	X
Physical Benefits		
Increased strength and endurance	X	X
Weight control	X	X
Feeling energized	X	--
Improved balance and mobility	--	X
BARRIERS TO PHYSICAL ACTIVITY		
Internal Barriers		
Lack of interest	X	X
Lack of confidence	X	--
Stamina	X	--
Balance and coordination	X	X
Dependency	X	X
Strength	--	X
External Barriers		
Pace of activities	X	--
Program availability	--	X
Acceptance	--	X
FACILITATORS OF PHYSICAL ACTIVITY		
Support from others	X	X
Adaptations	X	X
Acceptance	--	X

SPECIAL OLYMPIC PARTICIPATION		
Benefits of Special Olympics		
Acceptance and Inclusion	X	--
Social Opportunities	X	X
Improved confidence	X	X
A sense of normalcy	X	--
Independence	X	--
A chance for exercise	X	--
Traveling	X	--
A venue for organized sports	--	X
Drawbacks of Special Olympics		
Personal level	X	--
Program level	X	--
Segregation	--	X

Key Participants' Perspectives on Physical Activity

All participants in the present study indicated that they partake in at least some form of physical activity, ranging from unstructured activities such as walking and biking to structured activities such as karate and skiing. The most common activity identified was walking, which makes sense due to the fact that walking is a rather simple activity that can occur at many different locations, does not require any additional equipment, and individuals can still achieve many of the same benefits they would when participating in more vigorous activities. Participants identified several different settings in which they participated in physical activity, including their homes, their neighborhoods, and community recreation facilities such as swimming pools, gyms, and bowling alleys. Finally, participants indicated that they participated in physical activity individually as well as with family members, their peers, their support workers, and others involved in day programs and group homes.

Benefits of Physical Activity

There are several benefits that individuals with developmental delays typically

experience when they incorporate physical activity into their daily routines. These benefits can be categorized into three main areas: **Social Benefits**, which can have a positive impact on their inclusion in the community and their social network; **Psychological Benefits**, which can have a positive impact on their psychological well-being and how they conceptualize their talents and abilities; and **Physical Benefits**, which can have a positive impact on their overall health and physical well-being. These three main themes, as well as the corresponding sub-themes that emerged, will be discussed below.

Theme One: Social Benefits

The two sub-themes that emerged regarding the social benefits individuals with developmental delays experience when participating in physical activity are *Acceptance and Inclusion* and *Time with Friends*. The first sub-theme, *Acceptance and Inclusion*, addresses the notion that participating in physical activities can help individuals who have a disability feel more accepted and included in their peer group and their community. Physical activity can facilitate this inclusion because the activity provides an opportunity for everyone to recognize and appreciate each other's talents and abilities, which can lead to mutual respect and acceptance. Participating in physical activity is a past-time enjoyed by many people. Therefore, participating in physical activities in the community and joining recreational facilities and programs gives individuals who have a disability the chance to meet new people and develop a connection with those in their community. Building a strong connection to those in your community is an important step towards feeling accepted and included.

The following excerpt describes one participant's experiences in a community-

based karate program. It reveals how participating in the program has resulted in the development of relationships with individuals who have accepted him as one of the team, and who demonstrate a strong desire to ensure his inclusion and success.

> Participant (P): I feel included most of the time. I was in a tournament at karate and a friend worked along side me so that I could complete the kata. I was [given an award] for the best spirit in my category. Everyone makes me feel welcome there and gives me hi fives and makes sure I don't get left out (male 19 years).

The second sub-theme, *Time with Friends*, is based on the premise that friends tend to have similar interests and enjoy spending time with each other while engaging in activities based on these shared interests. Some of the most common physical activities that participants engaged in were group activities, such as bowling and swimming, which have a strong social component as well as a physical component. Therefore, the primary motivation for partaking in group based physical activities may be spending time with friends as opposed to getting exercise to improve one's physical fitness. Spending time with friends is as valid a reason for participating in physical activity as wanting to stay fit because close personal relationships can also have an important impact on one's overall health and well-being.

The following excerpt describes one of the primary social benefits that individuals experience when engaging in physical activity, having fun with friends.

> P: Then there's another activity that I do though…I go through [my day program] with a gang…and we all get together in a bunch and we go swim for the day…we love swimming. It's just a gang and we swim and we swim and we swim. We throw balls at each other, we throw toys at each other. We just have so much fun (female 30 years).

Spending time with friends and participating in a mutually enjoyable activity is important not only because it creates an opportunity to have fun, but also because it

typically occurs outside of the regular family and home routine. This is exemplified in the following excerpt.

> P: [I enjoy physical activities because] I am out of my house with my friends. I am not bored. Sometimes I would rather stay at home and watch TV or play on the computer, but my friends and family make me do things and then I'm glad I did (male 21 years).

Theme Two: Psychological Benefits

During the interviews, participants were asked why they enjoy participating in physical activities and how they feel after participating. Based on the participants' responses to these questions, three sub-themes emerged regarding the psychological benefits of physical activity, including *Increased Confidence*, *Increased Independence*, and *Stress Relief*. Many of the participants in this study expressed that participating in physical activity made them feel more confident. They attributed this sense of confidence to many different factors, including feeling a sense of accomplishment, knowing that they were improving, and spending time with supportive friends in a fun atmosphere.

The following excerpt depicts one of the factors that can contribute to one's overall self-esteem, knowing that you are improving. Participating in physical activities that promote skill development helped this individual feel more confident in her abilities.

> P: [Playing basketball and bowling] makes me feel kind of… it gives me the confidence to know that I can improve in it, if I have an off day or a bad day. I also think it helps to encourage my friends to know that they can also come to me if they have questions or need help (female 27 years).

As noted above, participants also indicated that spending time with friends who provide support and encouragement also increases their confidence. This is demonstrated through the following excerpt.

> P: The more places I go and the more things I do, I meet more people and more people get to know me and then they support me and encourage me and give me confidence too (male 21 years).

The second sub-theme, *Increased Independence*, addresses the issue that individuals with disabilities may be more dependent on family members and support workers to help complete everyday activities than individuals who do not have a disability. However, participating in physical activity may increase one's sense of independence because as they become more familiar with the activities, they require less support. In addition, when individuals who have a disability participate in community-based physical activities, they may feel a greater sense of independence because they are engaging in an activity under the guidance of coaches and instructors as opposed to their family and support workers.

The following excerpt demonstrates the sense of independence that one can gain when engaging in activities external to the family unit. Since many of the activities are supervised by community members, parents/guardians feel comfortable having their children attend the activities independently.

> P: [Bowling] just gives me a chance to be with friends and not have to be around like my mom. It gives me a chance to do stuff that I like without having her to have to worry about where I am and stuff. I go bowling; there's no where I can go except for upstairs just to wait (female 27 years).

The following excerpt is another example how being involved in activities and groups can positively impact other aspects of an individual's life.

> P: [Bowling and swimming] have changed me to be healthier and happier. They have also changed me to be a very independent girl. Now I've been able to come home when I want to. I don't have to be home at a certain time (female 30 years).

The final sub-theme regarding the psychological benefits individuals with disabilities experience when participating in physical activities is *Stress Relief*. This

particular theme is especially relevant for individuals who live in group homes or assisted living environments. When one's home environment becomes tense or they become agitated, engaging in physical activities, such as going for a walk or a bike ride, can serve as an outlet to relieve stress. Relieving stress by engaging in physical activity is healthier than many other alternatives and can contribute to one's overall health and well-being. The sub-theme, *Stress Relief*, is demonstrated through the following excerpt.

> Researcher (R): And how do you feel when you're going for a walk?
>
> P: Feel relieved.
>
> R: How come?
>
> P: There's a couple of people I'd like to kind of sort of get a little agitated.
>
> R: So you just get to escape from that for awhile.
>
> P: Just have to try and get away from it. Just get away…just to cool off (male 58 years).

Theme Three: Physical Benefits

The final category of benefits experienced by individuals with disabilities when they participate in physical activity is physical benefits, which can have a positive impact on their overall health and physical well-being. When people think about the benefits that they derive from being physically active, the first benefits that come to mind tend to be those associated with physical health. There were three sub-themes identified by participants regarding the physical benefits they experienced from being physically active: *Increased Strength and Endurance*, *Weight Control*, and *Feeling Energized*. The first sub-theme, *Increased Strength and Endurance*, addresses the notion that participating in physical activity can improve an individual's strength, which enables individuals with

disabilities to participate more fully in everyday activities. In particular, participants indicated that physical activity was important because their current or future occupations require them to have a certain level of strength. Therefore, improving one's strength is not only associated with improvements in physical health but also with achieving future aspirations. The following excerpt exemplifies the sub-theme *Increased Strength and Endurance* and demonstrates how gaining strength can be essential for participants to fulfill the requirements of their jobs.

> P: If I wasn't doing any exercise I wouldn't be as strong or as mobile as I would like to be. So with my work I have to have some strengths so I can pick the kids up (female 27 years).

The second physical benefit identified by participants during the interviews was *Weight Control*. It is important for individuals who have disabilities to incorporate at least a moderate amount of physical activity into their routine because it can have a significant impact on their ability to control or maintain their weight. To attain this goal, it is not always necessary for participants to take part in high impact group or team activities. Engaging in less strenuous activities such as walking and swimming can also reduce their risk of becoming obese and developing many of the cardiovascular disorders associated with obesity. The following demonstrates how walking can help maintain a healthy lifestyle.

> R: …What do you like about walking?
>
> Parent/Guardian (P/G): Remember what we were just talking about that last night. What does it keep us?
>
> P: Healthy.
>
> P/G: That's right and what else?

P: It gets our weight off…Because we don't want me to get big. Because everybody has to lose weight once in a while (female 14 years).

Being physically active can help individuals make other healthy living choices, such as adhering to a healthy diet, which also help to control their weight. The following excerpt demonstrates this additional benefit.

R: Are you healthier because of these activities?

P: Yes

R: …How are you healthier?

P: I eat less and I've been drinking more water. I don't eat as much fast food as I used to. I used to eat fat foods but no fat, no fat anymore. I've cut down (female 30 years).

The final sub-theme identified by participants regarding their involvement in physical activity was *Feeling Energized*. Participants expressed that after taking part in physical activity they feel more energized and more motivated to continue being active and involved in activities. Feeling energized may be due to the fact that physical activity can make an individual feel more physically and emotionally healthy. The healthy, energetic feeling that one achieves after participating in physical activity may serve as a motivating factor because it is a sensation that one enjoys and wants to continue experiencing. In addition, if an individual has had success with an activity in the past, they may be more motivated to continue the activity in the future. The following two excerpts illustrate this sub-theme.

Example 1:

R: Are you healthier because of these activities? Why or why not?

P: Yeah! I feel tired but energized (male 21 years).

Example 2:

P: And [swimming is] such a good exercise for me because it's great for me. It just gets me so energetic after (female 30 years).

Barriers to Physical Activity

Although many positive results accrue for individuals with developmental delays when incorporating physical activity into their lives, there still remain several barriers that inhibit their participation in physical activities. Factors identified during the interviews that serve as barriers to physical activity, and prevent or inhibit the participation of individuals with developmental delays, can be divided into two broad categories: **Internal Barriers** and **External Barriers. Internal barriers** include attributes or factors that are inherent in the individual whereas **External barriers** include factors that are inherent in the actual activities.

Theme Four: Internal Barriers

Internal barriers include both personal attributes and factors particular to an individual's disability which have an impact on their ability to participate in physical activity. Participants identified two sub-themes regarding personal attributes or character traits that serve as barriers to their participation in physical activity, *Lack of Interest* and *Lack of Confidence*, both of which are not exclusive to individuals with disabilities. The first sub-theme, *Lack of Interest*, addresses the fact that the primary reason why many people do not participate in physical activities is because they do not enjoy the activities. The following excerpt demonstrates this sub-theme.

R: Is there anything that prevents you from participating in physical activity during school?

P: [Disorder]. Also I do not like gym class (male 21 years).

The second sub-theme, *Lack of Confidence*, is based on the notion that when an individual does not feel confident about their ability to successfully complete or perform a certain activity, they most likely will opt out of participating in that activity. Many individuals who have a disability may not feel confident regarding their physical abilities and skills, therefore they may be more prone to restrict their participation in physical activities. This may be especially true if an individual has experienced difficulty in a particular activity in the past or if they compare their own abilities to others who are more proficient in physical activities. The following demonstrates this sub-theme.

> P: [Teachers] would encourage me to try stuff but it was hard for me to actually get the courage to actually do some of the stuff. [I found] swimming and riding a bike [difficult] when I knew my friends were whizzing by me. And also the gymnastics because they were going to do all the cool stuff and I ended up just going on the low beam and just trying to balance and stuff, while they were jumping over stuff and swinging on bars and stuff (female 27 years).

Internal barriers also include barriers that are associated with the individual's disability as opposed to personal attributes or interests. Participants identified three sub-themes or factors associated with their disability that inhibit or prevent their participation in physical activity: *Stamina*, *Balance and Coordination*, and *Dependency*. The first sub-theme, *Stamina*, concerns the ability of individuals with disabilities to participate in physical activities for an extended period of time. Participants indicated that they tend to tire out easily when they engage in physical activity, especially in comparison to their peers. Therefore, they find it challenging to participate in activities that involve running. This can limit the type of activities individuals with disabilities can participate in because many activities, especially team sports, entail a great deal of running and can be very tiring. The following excerpt demonstrates how strenuous activities can be difficult for individuals who have a disability.

> P: With hiking I'm not as good [as my friends] because I get tired too easily and so sometimes I do not get as far as the other people…My physical disabilities make it hard to do these activities and I get tired easier than some people (male 19 years).

The following excerpt also illustrates this sub-theme and how an individual's endurance can influence whether or not they continue participating in a particular activity.

> P: I used to do floor hockey.
>
> R: How come you don't play floor hockey any more.
>
> P: I got tired of it. Tired and then I decided to quit.
>
> R: Why wasn't it fun?
>
> P: Too much…people, I don't know. Too tiring (male 36 years).

The second sub-theme identified by participants concerning the barriers related to their disability that limit their participation in physical activity is *Balance and Coordination*. Individuals with disabilities tend to have less balance than individuals without disabilities. Since many physical activities require a certain degree of balance and coordination, this can serve as a barrier. The following excerpt exemplifies the difficulties associated with this sub-theme.

> P: I would try gymnastics but there wasn't a lot I could do for that because a lot of it was balance…I would ride bikes but I would have to use one of those special bikes when all my friends were cruising behind me. That wasn't much fun (female 27 years).

The final sub-theme identified regarding barriers to physical activity associated with an individual's disability is *Dependency*. There is a greater risk of harm when individuals with disabilities participate in physical activity. Therefore, they may require more supervision than others to ensure that they remain safe. Moreover, the necessary amount of supervision may not always be available, which may decrease the extent to

which individuals with disabilities can participate in these activities. The problem is illustrated in the following excerpt.

> P: I wouldn't really go to the park because I wasn't sure what I could do there…There was like monkey bars and stuff but I wouldn't go on it. But then my friend would go to the bigger parks but there wouldn't be anybody watching. So I wouldn't really venture over there with them because I wasn't sure what I could do safely. Sometimes I would just go and watch (female 27 years).

The fact that individuals with disabilities face a greater risk of harm when they participate in certain physical activities may not necessarily limit the kinds of activities that they can participate in, but may affect the extent to which they can participate in the activity. For example, in the following excerpt, the participant was able to ride her bike without supervision, but was not able to venture too far from the house because of traffic on the roads.

> P: But I do exercise on my real bike but I can't go very far though. My dad says that I'll be able to….bike to work if I want to but I have to be careful though…I have to be careful of the roads because the roads are just dangerous in that area (female 30 years).

Theme Five: External Barriers

The following barriers exist external to the individual; and individuals have less control over the impact that these barriers have on their ability to participate in physical activity. However, many of these barriers can be overcome through effective program management and awareness campaigns.

Participants only identified one sub-theme regarding external barriers that restrict their involvement in physical activities and recreational programs, *Pace of Activities*. The pace of many activities may be too fast, or the activities themselves may be too rough. This may make it more challenging for individuals with developmental delays to

participate, and compete with others, in certain community and school based activities. This theme is illustrated in the following excerpt.

R: What would be hard?

P: Tennis.

P/G: So some of the sports like tennis would be hard?

P: Yeah.

P/G: Is there any other things that are hard?

P: Yeah, baseball. It's too hard.

P/G: It's hard, that ball goes fast. So sometimes gym class is hard?

P: Yeah (male 14 years).

Theme Six: Facilitators of Physical Activity

There are several factors that can help overcome the barriers that individuals with disabilities face with regards to their involvement in physical activities and can facilitate their inclusion. Participants identified two main sub-themes regarding factors that facilitate their inclusion in physical activity, *Support from Others* and *Adaptations*.

When individuals with developmental delays receive support from those close to them, such as their family, friends, and support workers, the likelihood that they will participate in physical activity improves. Family members provide a number of different kinds of support that range from formal supports, such as financial and transportation, to more informal types of support such as providing a cheering section and encouraging them to do their best. The following excerpt demonstrates many of the ways in which an individual's family can facilitate their inclusion in physical activities.

R: How does your family support you when you take part in these activities?

> P: They love me. They make sure the finances are in order, they make sure I get registered in the activities that I want to take part in. Sometimes they come and watch me (male 19 years).

An individual's friends can also be a source of support, particularly informal types, which facilitates their participation in physical activities. Friends can contribute to their inclusion by cheering them on and working as a team so that everyone can keep up with the activity and be included. The following excerpt demonstrates the support that individuals who have a disability receive from their friends.

> P: [My friends] support me every way. They giggle at me when I'm swimming because I'm such a goof in the pool. They support me a lot…They cheer me on at bowling. I think they go "go [participant] go". [My friends] will come and cheer me on like they'll be a couple of cheerleaders (female 30 years).

Encouragement from friends can facilitate one's inclusion in physical activity because it creates a fun, supportive environment that will lead to their continued involvement.

Finally, aides and workers can provide a great deal of support because they are often the ones that will accompany individuals to the activities and encourage them to participate. The following excerpt depicts the support that an individual receives from his teacher.

> P/G: So once a week he goes to [the gym].
>
> R: With your friends do you go?
>
> P: Yeah. Yeah my teacher.
>
> R: Oh, your teacher ok. And so that's during school is it?
>
> P/G: And even in the summer she likes to take him (male 14 years).

The second sub-theme, *Adaptations*, refers to the number of modifications that can be made to certain activities and programs that can facilitate the inclusion of

individuals with disabilities. Adaptations can be made by either adapting the activity itself, or by using special equipment that makes it easier for the activity to be completed. The following excerpt suggests a number of different modifications that can be made to activities so that individuals with disabilities can participate as independently as possible.

> P: At karate they put up a grab bar for me so I can kick independently. When I hike I need to wear a brace on my left leg. We all use a T when we are finding it difficult to hit and I had to spend a lot of money to find a glove that I could get my hand into (male 19 years).

Special Olympic Participation

Special Olympic programs can facilitate the inclusion of individuals with disabilities in sports and exercise by providing the opportunity for athletic training and competition in a variety of different sports to all adults and children with mental retardation or other disabilities. In the following section some of the benefits and drawbacks that were identified with respect to the Special Olympics are presented.

Theme Seven: Benefits of the Special Olympics.

Many of the benefits that were identified by participants regarding their involvement in the Special Olympics are similar to those identified regarding their participation in physical activities in general. This could be because seven of the ten participants were involved with the Special Olympics, whereas only two individuals were involved in inclusive recreation programs. Therefore, the Special Olympic programs served as their frame of reference when they were discussing their participation in group-based activities. In the following section, themes regarding the social, psychological, and physical benefits of the Special Olympics will be identified. However, to avoid repetition, only the benefits that were unique to the Special Olympics (i.e., *Improved Confidence*, *A Sense of Normalcy*, *A Chance for Exercise*, and *Traveling*) will be discussed in detail.

Participants identified two sub-themes regarding the social benefits of the Special Olympics, *Acceptance and Inclusion and Social Opportunities*. Participants discussed how the Special Olympics made them feel more included and part of the group because it enabled them to meet and develop relationships with others in their community. Furthermore, the Special Olympics provided a social environment where they could spend time with their friends.

Participants indicated three sub-themes concerning the psychological benefits of participating in the Special Olympics: *Independence, Improved Confidence*, and *A Sense of Normalcy*. Participating in the Special Olympics can make individuals feel more independent because they are doing activities apart from their families. This can be particularly important when other family members, such as siblings, have their own activities

The second sub-theme, *Improved Confidence*, suggests that participating in the Special Olympics can help increase the confidence and self-esteem of individuals with disabilities because it offers an opportunity where they can experience accomplishment and success in physical activities. Many participants indicated that they were involved in competitive Special Olympic programs, such as the provincials and the nationals, where they had the opportunity to win awards and medals. Winning awards can leave athletes with a sense of achievement and can contribute to their self-esteem.

R: Have you ever been involved in any tournaments through Special Olympics?

P: Bowling…I won a gold medal.

R: You won a gold medal? Congratulations!

P: Thank you.

R: So how did that make you feel when you won?

P: Happy!

R: Yeah, I can imagine. So you won the one gold medal, have you won anything else for bowling?

P: Trophies…bowling.

I: So you must be pretty good!

P: Of course! (male 36 years).

Having a disability can often make an individual feel different from his or her peers. The third sub-theme, *A Sense of Normalcy*, suggests that participating in the Special Olympics can reduce the division that individuals who have a disability feel between themselves and their peers, and can help them focus on the similarities that exist as opposed to the differences. The following excerpt demonstrates the theme, *A Sense of Normalcy*, because being involved with the Special Olympics has helped this participant come to the realization that her disability does not limit her ability to interact with others.

R: And has being in the Special Olympics changed how people treat you?

P: It's made them more aware that people can understand me. They weren't sure if they could fully understand me at first. But now they seem to want to just come up to me and talk to me and stuff (Female 27 years).

Participants focused more on the social and psychological benefits of participating in the Special Olympics as opposed to the physical benefits. The only sub-theme that was identified by the participants regarding the physical benefits was *A Chance for Exercise*. The Special Olympics has many different programs that are offered throughout the week. Therefore, if participants are involved in a number of the programs they would be more likely to reach the recommended level of physical activity required to maintain a healthy lifestyle. This theme is reflected through the following excerpt:

> P: Good things [about the Special Olympics] is that it's good because it's the most exercise I get on most days when I'm not walking around here or I'm doing things around here, it's the most exercise I get all week (female 30 years).

One additional benefit identified regarding their participation in the Special Olympics is that the programs provided an *Opportunity for Traveling*. Traveling provided two separate benefits to the individuals involved. It gave individuals the chance to travel to other cities both within their own province and across Canada, and it gave them the opportunity to meet people from other cities and provinces. These were unique opportunities that they might not have experienced with other programs or with family.

Theme Eight: Drawbacks of the Special Olympics.

The drawbacks identified by the participants concerning the Special Olympics fell into two broad categories: drawbacks that arose at a personal level and drawbacks that arose at the program level. At the personal level, one participant indicated that he found some of the activities too difficult, while another participant found some of the activities to be too rough. At the program level, one participant indicated that it was difficult to participate in multiple programs because they were all offered at similar times. Therefore, she was limited in the number and types of activities in which she could participate. Another participant indicated that there were not always enough volunteers to meet the needs of the athletes. She mentioned that if not enough volunteers show up, they would have to postpone the activity until there was a sufficient number of coaches.

Participants who were involved in the competitive Special Olympic programs identified two additional drawbacks regarding the programs. The first drawback concerned the way in which athletes were chosen to attend provincial and national events. Invitations are primarily based on performance, so many of the athletes who would like

to attend were not invited because they did not possess the skills to qualify. Nevertheless, this is how all athletic programs select the athletes that will represent a particular group or city, and therefore, the disappointment that Special Olympic athletes experienced was the same as athletes who participate in other athletic clubs and programs. The second drawback that was identified was that the schedules are too hectic and include too many events in a short time period. Given that many participants indicated that they tire more easily than others, it seems logical that the organizers of the tournaments would take this into consideration and allow athletes more time between events to regain their strength.

The following section presents the perceptions of the parents/guardians regarding the participants' involvement in physical activity.

Parents/Guardians' Perceptions of Physical Activity

The eight overarching themes identified by the parents/guardians are the same as those identified by the participants. The specific sub-themes, however, differed to some degree. The details regarding the definition and content of each theme were discussed previously in the participant section and will therefore not be discussed here.

Benefits to Physical Activity

The first three themes that will be discussed fall under the broad category, benefits of physical activity.

Theme One: Social Benefits

The first sub-theme that emerged for parents/guardians with respect to the social benefits of physical activity is *Acceptance and Inclusion*. Participating in physical activity can facilitate one's sense of inclusion within their peer group and the larger community. This benefit is extremely important for parents/guardians because one of the

main goals they expressed with regards to their children is that they are included in the community the same way they would be if they did not have a disability. One way in which physical activity can facilitate inclusion is by changing the community's misconceptions about the limitations of individuals who have a disability.

The following excerpt demonstrates how participating in a particular sport or activity can make people realize that having a disability does not always limit an individual's activities. When people realize that an individual with a disability is involved in the same activity or shares a similar interest, they tend to focus less on the disability and their differences.

> (P/G): There's been different times when we have…when he was little, not so much now but we would…someone was wondering about [him] and oh, he skis and…he does? And then all of a sudden there's a different perspective. All of a sudden it's not just this kid with a disability that…screams when he's upset, he skis. All of a sudden it's beyond the disability.

Community events that highlight the accomplishments and abilities of individuals with developmental delays, such as the events illustrated in the following excerpt, are additional ways to facilitate community inclusion.

> P/G: So he has danced at festival place, he has danced at the Winspear even. At Hip Hop for Hope for the Stollery Children's thing. Which was fabulous, it was a real honor.

The second sub-theme identified by parents/guardians regarding the perceived social benefits experienced by individuals with disabilities is *Social Connections*. Physical activity and recreational programs provide individuals with the opportunity to engage with other people. Interacting with people in a social environment can help individuals build a larger social network in their community. The following excerpt

demonstrates how physical activity can lead to the development of social connections with others because the activities tend to be based on similar interests.

> P/G: I think it has opened up the world. You meet new people and you develop a friendship sort of based on similar interests and sort of just personality I guess. The one thing I think too that has made [her] I think quite gentle, caring person. And so even in the groups that she's in that are quite segregated, to me they're not all that segregated because the population is so diverse. It's like the regular world out there except that it often puts her in the role of being a helper.

Physical activity can provide more than just a venue to make social connections; it can also enable the development of close friendships. The following excerpt also exemplifies the sub-theme *Social Connections* and how physical activity can help establish strong bonds and bring individuals closer together.

> P/G: And I'll tell you, socially, if they have a dance with their friends and it's often at [the day program] they dance from the time the music starts to the time it stops…And everybody dances with everybody and everybody hugs everybody and it's really quite wonderful. I love watching them. So it is definitely a lot of exercise right there.

The final sub-theme that emerged regarding the social benefits experienced by individuals with developmental delays is *Enhanced Social Skills*. Individuals who have a developmental delay do not necessarily acquire the subtle components of social interaction that come naturally to others. Participating in group activities, such as sports, can help individuals with a developmental delay gain the necessary social skills to interact effectively with their peers because of the emphasis that is placed on cooperation. Furthermore, simply being in a social environment and watching how other people interact can help individuals with a disability learn the nuances of social interaction and how to behave around others. The following excerpt demonstrates this theme.

> P/G: So I think it's helping to meet people and interact with people and learning how to behave with people, but not necessarily bring on the same kind of relationship he has with [other friends].

Being involved in physical activities can make it easier for individuals with developmental delays to engage in conversations with others because the emphasis is on the activity as opposed to the conversation. This can help to enhance an individual's social skills because the activity provides a basis for conversation with others. This is illustrated in the following excerpt.

> P/G: Maybe when he was in grade seven for example I would go and pick up another grade seven kid and take them bowling. But I would notice that [his] ability to have conversations with this kid would be limited. So his ability to interact would be very limited. Once they're actually engaged in bowling then it's fine, they're bowling. But if they're just in the car, there's not much that they can talk about.

Theme Two: Psychological Benefits

The two sub-themes that emerged from the interviews with the parents/guardians regarding the psychological benefits of physical activity are *Increased Confidence* and a *Sense of Normalcy*. Participating in physical activity can increase an individual's overall confidence and self-esteem because it provides an opportunity for them to succeed at an activity and to feel a sense of accomplishment. Many people experience improvements, either in terms of skill level or physical health, when they engage in physical activities on a regular basis. In particular, the more frequently that an individual engages in physical activities, such as bowling, the more proficient they will become at the activity. Improving at an activity can in turn result in an increase in confidence concerning one's skills and abilities.

The following excerpt documents how being involved in a physical activity can make an individual feel good about their abilities. It is not always necessary to be the best

at an activity in order to feel good about your accomplishments. Simply seeing what you can accomplish and doing your best can lead to improvements in self-confidence.

> P/G: So I mean being physical, I think it benefits anybody, but it certainly has benefited him. And it makes him feel good about himself when he's doing stuff and as far as he's concerned, it may not be the same as somebody without a disability, but he can see himself…you know, people used to say to me when he was younger…doesn't he get kind of down because he can't do it the same as other people – and he's never gotten down because he can't do it the same as other people. I don't think he even realizes that he can't do it the same as other people. He just goes out and does his best and has fun.

The following excerpt reinforces the concept that individuals with disabilities experience many of the same benefits from physical activity as individuals who do not have a disability. Anyone who experiences success and accomplishment when engaging in an activity will have more confidence in their abilities.

> R: How do you think [your son] benefits from participating in physical activity?
>
> P/G: Oh, like anybody else. It makes him healthier, it makes him more confident, it's just better. Just not any different than anybody.

The second sub-theme that emerged from the interviews with the parents/guardians is that engaging in physical activity is important for restoring a S*ense of Normalcy* in their lives. Parents/guardians who have a child with a disability encounter numerous experiences during their child's life that other parents/guardians will not have to face, such as frequent visits to the doctor, health concerns, and difficulty placing their child in school and recreational programs. Therefore, it is important when they can achieve a certain degree of normalcy in their child's life as well as their own. For parents/guardians who have a child with a disability, having their child involved in his or her own activities outside of the family can be very comforting because it enables their

child, and themselves as parents/guardians, to experience a typical childhood activity and to relate with other families. This is illustrated in the following excerpt.

> P/G: I certainly was delighted because they had places to go, they felt important they could talk to others about things…And so it started going from the guys coming from school and watching television all evening. We went to activities and exactly what we would be doing for any other child. It was a very normal experience if you like or dislike that word. Whatever normal is. It was just like what everybody else does.

Theme Three: Physical Benefits

There were three sub-themes that emerged from the interviews with the parents/guardians concerning the physical benefits of physical activity: *Increased Strength and Endurance*, *Weight Control*, and *Improved Balance and Mobility*. Physical activity can increase an individual's strength, which can facilitate certain daily activities such as lifting and walking. Furthermore, an individual's endurance tends to improve as their strength increases. This enables them to participate in activities for a longer period of time, thereby enhancing the benefits that they experience from physical activity.

The following statement describes one parent's perception of how it is important to have physical strength because it is instrumental in many of our daily activities. Therefore, exercising and gaining strength can aid individuals who have a disability to reach other goals in their lives.

> P/G: …and he's bought a membership at the Y, so now he's starting to do some weight training and stuff to try to strengthen – because it's all to do with getting a [job], right? …He so badly wants to work… and you need a bit of strength to be able to do that …and if you're carrying things and – so he's started to go and work out at the Y now.

The second sub-theme indicated by parents/guardians concerning the participants' involvement in physical activity is *Weight Control*. One of the most commonly cited benefits to physical activity is weight loss or weight maintenance. Parents/guardians and

support staff are cognizant of the potential risk of obesity for individuals with disabilities. Therefore, they tend to stress the inclusion of physical activity in participants' daily routines. The following excerpt demonstrates the common belief that participating in physical activity can help an individual's cardiovascular fitness and can control one's weight. The other important aspect of this statement is that families need to teach their children steps towards healthy living because what they learn during childhood often determines their attitudes towards physical activity and healthy living when they become adults.

> R: How do you think [she] benefits by her participating in physical activities?
>
> P/G: Oh, it's keeping her weight down which is a big thing because…that's the only physical activity she can do is walk and she loves it. She loves that I love doing it. Like we all do. She looks forward to it because she spends time with us – family time. She loves to talk. And we just talk and walk.
>
> R: Ok. Does engaging in physical activity help [her] make friends or meet new people?
>
> P/G: No, I don't think so. We do it just to keep fit. She knows that it's going to keep her heart healthy and keep her healthy.

Maintaining a healthy weight can be especially important for an individual who has a disability because many disabilities increase an individual's risk of obesity. The following excerpt illustrates how being physically active has been instrumental in the participant staying in shape and controlling his weight.

> P/G: Well it keeps him healthier for sure. I'd say he's in good shape. So as a kid with [a disability], he's trim and so physical activity is important for that.

The final sub-theme regarding the physical benefits of physical activity is *Improved Balance and Mobility*. Many individuals with disabilities experience problems with balance and coordination, which can make it difficult for them to participate in

certain physical activities that are dependent on running and jumping such as basketball and soccer. However, maintaining an active lifestyle can minimize this potential barrier and increase the range of activities in which they can participate. The following excerpt illustrates how beneficial physical activities can be in improving an individual's balance and coordination.

> P/G: But things that have happened to him as well as the normal things that happen to anybody are that his balance is improved, his coordination has improved, his left side was very paralyzed in lots of ways and he's using both sides of his body. So I mean being physical, I think it benefits anybody but it certainly has benefited him. And it makes him feel good about himself.

Another benefit that individuals with disabilities experience when they participate in physical activity is that it becomes easier to move around in their environment. This is related to improvements in balance because increases in balance and coordination can in turn lead to increased mobility. Increasing one's mobility is especially important for older individuals because it keeps them from becoming sedentary, but it is also important for younger individuals because it can prevent or delay future problems.

The following excerpt highlights the concerns that parents/guardians have when faced with caring for an individual with a disability. When an individual's mobility becomes restricted, they become more dependent on others. Remaining physically active throughout one's lifetime can help to prevent these future problems.

> R: So how do you think he benefits from physical activity or how do you think he would benefit if he was able to participate?
>
> P/G: Well, it would keep him mobile. We keep stressing how important it is because he's not only really big, he's not very well coordinated. So he got really obese and he couldn't move. He would be very hard to take care of.

Barriers to Physical Activity

Parents/guardians were also asked questions regarding the potential barriers that individuals with developmental delays face with respect to physical activities. The following two themes, **Internal Barriers** and **External Barriers**, fall under the broad category, barriers to physical activity.

Theme Four: Internal Barriers

With regards to personal attributes and character traits that may serve as potential barriers to physical activity, parents/guardians indicated one sub-theme, *Lack of Interest*. Individuals have different personalities and interests and they do not always include athletics. This does not necessarily mean that these individuals are physically inactive, simply that they do not enjoy many forms of physical activity. The following excerpt is an example of how it is possible for individuals to simply not be interested in sports or other types of physical activity.

> P/G: He's not a jock. He's not a sports…an athlete. He hated Phys Ed, his brother took Phys Ed…I mean his brother is the jock and the athlete, but (he) has never been…he only took Phys Ed in grade ten because he had to pass – to get his credits or he wouldn't have done it then. It's just not his thing. He likes to swim and he likes to ski and he likes to walk, but the rest, forget it. He likes art and music and that sort of thing, whereas his brother could care less about those things.

Although many individuals may not enjoy participating in physical activities, it is still essential for everyone to incorporate some form of exercise into their daily routines. Therefore, it may be more challenging for parents/guardians and caregivers to find physical activities that would appeal for some individuals with disabilities. This difficulty is exemplified in the following excerpt.

> P/G: I guess part of it is deciding how much to try and as I said, push, promote. The fitness is one where I went through a stage of really trying to seek things that were related to fitness and looking out for some of that stuff, and he wasn't very keen, so I would sort of back off. If something would come up so that it was a little more part of his doing-he likes it to be his doing. I can sort of push a little bit,

> and I'm sure that the people there can push a certain amount, and then he'll push back.

Parents/guardians identified certain traits particular to the individual's disability that either have adverse effects on their health or affect their ability to participate in physical activity. Three sub-themes emerged from the data: *Strength*, *Balance and Coordination*, and *Dependency*.

An individual's strength is directly associated with their endurance. Therefore, not having the strength needed to participate for an extended period of time may prevent people from participating in activities. Even if they do take part in physical activity, their limited endurance may make it difficult for them to experience the physical benefits that are typically associated with exercise. This problem is exemplified in the following excerpt.

> R: Do you find it's better now that he has lost the weight?
>
> P/G: It's a little better yeah, it is a little better. But we went to – we took him for a reunion and we found it very frustrating because he just wanted to eat and go to bed.
>
> R: He's tired.
>
> P/G: He's tired and he gets very tired – he takes medication at night so we have him over for supper if it's the evening, not for lunch. He eats and then he wants to go home right away.

Lack of strength in the arms and legs can also limit an individual's mobility. The impact it can have on an individual's activities can range from the inability to run and jump like other children, to not being able to lift oneself out of a wheelchair. Difficulties with regards to strength can limit the kinds and amount of activities in which an individual can engage as exemplified in the following excerpt.

> P/G: Because she doesn't run and jump and climb like normal children; she physically isn't able to do that…she has very low muscle tone and it's from here down…throughout her entire body. And when she's tired, she's just a limp rag doll.

Many individuals with a disability experience greater difficulties with respect to balance and coordination than individuals without a disability. Having poor *Balance and Coordination* may serve as a barrier to participating in physical activities because it may limit an individual's range of possible activities or force them to use special equipment to maintain balance. Two of the most frequent activities that participants and parent/guardians identified that were impacted by a lack of balance were bike riding and skating/rollerblading. The following excerpt demonstrates these difficulties.

> P/G: And now she wants to get into her rollerblades quite a bit, because one of her friends has started to rollerblade a lot. But she has a bit of a balance problem, which makes rollerblading a special challenge for her.

The following excerpt demonstrates how recent difficulties with balance that were induced by a seizure limited the participant's ability to participate in physical activity. The participant's lack of balance and coordination prevented him from participating in as many activities as in the past. It also shows how as individuals age, they face more and more barriers with regards to participating in physical activity.

> P/G: Yeah, he's had a couple of… he had a very bad seizure which really affected his one side – but he's got a limp. His balance went down a bit and he just didn't have as much confidence and he doesn't keep his balance very well. Like he can easily go off balance. So there's a lot of things he's reluctant to do.

Individuals with a disability tend to require more support and supervision when participating in physical activity than the typical person because there is a greater chance that they could harm themselves. Unfortunately, this *Dependency* on supervision or support can serve as a barrier for many individuals with disabilities because many

facilities and programs do not have the necessary supports available which would enable their inclusion in physical activity. The need for additional support and supervision particularly affects an individual's participation in individual activities, such as bike riding and swimming, that many people can participate in on their own schedule. The need for additional supervision is exemplified in the following excerpt.

> P/G: When I think of riding bike and safety, [my son] has a seizure disorder so that creates just that sense of knowing that there have to be some extra precautions. And that affects probably every physical activity. I mean I don't want him riding bike alone in case something happens. I mean if somebody was with him and then he went into a seizure it would still be dangerous but somebody would at least be there... Swimming is another thing. He has had a seizure at the pool. That's pretty scary. He was out of the water but yeah he couldn't swim alone...Not that he has, he doesn't have seizures very often but you don't know when.

Additional supports are also necessary in community-based activities to ensure that individuals with disabilities are able to successfully participate in an activity. These supports may be as simple as having someone check that everyone understands the rules or regulations of the activity, as illustrated in the following excerpt.

> P/G: Well he can't go to things on his own – typical 14 year olds would be able to go somewhere but he can't do that. I suppose if he was to join something in the community and he didn't have the extra support, he wouldn't maybe know what to do in terms of following the directions, following the instructions.

Theme Five: External Barriers

Parents/guardians identified two sub-themes regarding the external barriers that individuals with disabilities face when they engage in physical activities. The first sub-theme, ***Program Availability***, is based on the fact that many parents/guardians indicated that there were limited programs geared towards physical activity that individuals with disabilities could participate in within the community. In particular, there are limited recreation programs that facilitate the inclusion of individuals with disabilities with non-

disabled peers. One possible reason why these programs may be limited is because inclusive programs must be arranged so that everyone can participate. Therefore, program coordinators may be more prone to choose activities that do not require as much modifications and adaptations. Although Special Olympic programs do exist to promote physical activity, it is still important to have inclusive programs available because the benefits go beyond physical health. Inclusive recreation programs can facilitate one's inclusion by connecting them with different members of the community, which in turn can expand an individual's social network.

The following excerpt demonstrates a mother's concern that there are no inclusive recreational programs available in the community for individuals with disabilities. She acknowledges the existence of segregated programs such as the Special Olympics, but does not feel that she could easily place her son in one of the preexisting sport or recreational programs that are available for individuals without disabilities.

> R: What community supports are you aware of that would facilitate his inclusion in physical activity?
>
> P/G: I don't know if there is any…I don't know of any…inclusive ones. There's the segregated ones for sure, but not inclusive ones, I can't think of any.

The second sub-theme that parents/guardians identified was *Acceptance*. The lack of acceptance by community and family members can serve as a barrier limiting their involvement. This lack of acceptance can come from a number of different sources and can be the case for a number of different reasons. Individuals with disabilities may experience skepticism and resistance at the programming level. Recreation programs and staff may be hesitant to include an individual with a disability in the program or activity

because they are concerned over whether or not they have the safeguards in place to meet the individual's special needs. This is illustrated in the following excerpt.

> P/G: People were a little bit afraid to take him on the trips because of his…disorder…And there was a little bit of frustration in me on that one because I felt like that was a form of discrimination too.

In general, individuals with disabilities are less likely to be accepted in team or group activities than they are in individually oriented activities, especially if the program is competitive in nature. Many parents/guardians indicated that when their child was younger it was easier to find recreational activities and programs for them to participate in. However, as the child aged and there was a greater difference in the ability levels of the children, it became increasingly difficult to find programs that would accept an individual with limited skills. When teams become competitive, players, coaches, and parents/guardians may be unwilling to accept an individual with a disability because of the belief that they may either prevent the team from winning or they may hold the other players back. The following excerpt is an example of how differences in skill level may make it difficult for individuals with disabilities to participate in inclusive sports.

> P/G: Well I'm sure if he wanted to go play hockey, he wouldn't be able to. And if he wanted to bowl, he'd have to bowl with the people from the group home. He wouldn't be able to bowl in a league. And I think if he wanted to play ball, it would be the same thing…or soccer. He'd have to go and do the Special Olympics stuff or whatever. I don't think he would be allowed…I don't think they would want him.

The lack of acceptance that individuals with disabilities experience is not limited to the community or program level. Individuals with disabilities may also face resistance within their families. If parents/guardians or siblings do not believe they can succeed or exclude them from certain activities, individuals with disabilities may be hesitant to

participate in physical activities because they begin to question their own abilities and do not feel like others want them to participate. This is illustrated in the following excerpt.

> P/G: I think right now he just rides in the cart. Sometimes they give him putters – he can go out and putt and stuff like that – which is a problem I have because I think he should…they should be letting him hit the golf clubs. And if he has to pay green fees, so be it. To me, that should be happening…it should have been happening a long time ago. But there again, it's a different way of dad's perspective and mom's. Dad doesn't have the same perspective on inclusion as mom does.

Theme Six: Facilitators of Physical Activity

Parents/guardians identified sub-themes similar to the participants regarding factors that can facilitate the inclusion of individuals with disabilities in physical activities. The first sub-theme, *Support from Others*, is especially important for older adults living in group homes or assisted living residences. Support staff can facilitate the involvement of individuals with disabilities by organizing activities and day programs that encourage physical activity and exercise. Parents/guardians noted that the support staff is aware of the role that physical activity plays in maintaining an individual's overall health and they attempt to keep all individuals as active as possible. However, it becomes more difficult when the individual is not interested in participating in the organized activities that are available. Therefore, they must find alternative ways of introducing physical activity into their daily routines. The following excerpt reveals how support workers are aware of the benefits of physical activity and the need to keep individuals who have a disability as active as possible.

> P/G: They do…they offer a lot but [he] wouldn't do them. [His worker] is great…She's wonderful – she makes him walk to the bank and then they go for coffee. They do try, I think they're very good.

For younger participants who still lived at home with their parents/guardians, workers facilitated their inclusion in physical activity by accompanying them to the activities and providing the additional support and supervision that they required. The support offered to participants and their families is illustrated in the following.

> P/G: Well we actually just started using [respite] – just this past year…I have a friend and…for the past year she'd been coming to the Special Olympics bowling ad I asked her why…and she says that she was doing respite care. Oh! Would you do respite care for me? And it just worked out. So she comes and takes [my daughter] swimming.

The second sub-theme, *Adaptations*, is one of the most important factors that can facilitate the participation of individuals with disabilities in physical activities. There are many activities that are difficult for certain people to participate in, and it is not necessarily due to the fact that they have a disability. Activities can be adapted or modified in many different ways. The activity itself can be modified to accommodate the individual's specific needs, special equipment or supplies can be used, additional support can be provided, or the way in which success is measured can be adjusted. The following excerpt demonstrates some of the adaptations that had been made in the past to facilitate the involvement of one of the participants in physical activity.

> P/G: One of the white water rafts that he went on, the water was too rough in certain places so they pulled the raft over, they let [him] get out, he'd have to walk through that section and they'd pick him up on the other side because it was too dangerous. When they went on the trail ride, the trail ride leader made sure [he] was right behind him and at times he would have a rope attached to [him]…and lead [him] through certain areas that he didn't feel was safe. Karate, they put up a grab bar for him so he can kick. So when they're doing a lot of kicking exercises, they put up a bar on the wall for him so that he can hold onto the grab bar and do it independently rather than having to hold on to somebody else…When he took downhill skiing, there was a lot of…they had a person…he had to wear a harness, the person held the harness behind him, then there were two other skiers that held a harness that kept [him] from going too fast. So there were three volunteers to make it happen for [him].

As mentioned above, one of ways in which an activity can be modified to facilitate the inclusion of individuals with disabilities is to alter the way in which success is measured. In the following example, adjusting who the children ran against increased the likelihood that they would all experience some success in the race.

> P/G: I think the…staff seem to try to do whatever they need to do to help the kids participate…During track and field days, what they did was they put the five boys with [a disability] in the race together – which sort of leveled the playing field a little bit more because just a race against the other kids in grade eight, he'd definitely be coming in the rear. Whereas with these five kids, they gave them a challenge.

The kinds of adaptations and modifications implemented reveal how creativity and acceptance are key components to a successful recreational program. Therefore, it is directly related to the third sub-theme, *Acceptance*, because those who are willing to accept the participation of individuals with disabilities will be more likely to implement the modifications needed to ensure that everyone who participates in the activity experiences some degree of success.

In addition to the previous two sub-themes, parents/guardians also identified a third that was not consistent with the participants. The final sub-theme, *Acceptance*, refers to the opinions and beliefs of program coordinators, staff at recreational facilities, community members, and even family members. When others are willing to accept the inclusion of individuals with disabilities in physical activities and recreational programs, it becomes easier for them to participate. Acceptance must come at two levels; believing that an individual with a disability has the ability and the right to participate in an activity, and then doing everything possible to ensure that they succeed. Parents/guardians stressed that it is extremely important for program coordinators and staff to accept individuals with disabilities into the programs. The following excerpt reveals the

recommendations that one parent would offer community facilities and recreational programs regarding the inclusion of individuals with disabilities in physical activities.

> R: Is there any recommendation you would suggest for a community program that would have helped…or could still help include [your son] in physical activities?
>
> P/G: Be willing to try. Ask the parents if you need help or if you need support…Like don't be afraid to ask for help and don't be afraid to try new things. Sometimes they're just afraid to try because they're not sure they can do it but if you don't try, you for sure won't do it and if you do try, maybe you won't do it but at least you gave it your best shot. But ask the parents; ask the parents if they have any ideas on how to make it work. Like we never minded when people said this kind of scares us because we've never done it before and we might need some help and we'd say sure! Just tell us if you need help.

Parents/guardians spoke of another group that must be willing to accept the inclusion of individuals with disabilities in physical activity and recreational programs: the other athletes participating in the program and their families. Even if the program tries everything possible to ensure that individuals with disabilities are included in the activities, if someone does not feel accepted by the other players they may not want to participate because it is an unwelcoming environment. In addition, when children and adolescents participate in a team activity, the other parents/guardians must be willing to accept the inclusion of an individual with a disability on the team. Many individuals can become extremely competitive when it comes to team sports causing them to resist anything or anyone that could potentially interfere with the team's success. This is demonstrated in the following excerpt.

> P/G: I think they need a broader mind – they have to get off the push to win and just make it fun instead of wanting to win all the time and then make a way for people with disabilities to be on teams instead of just the water boy…that's usually all they ever get to be if they want to be involved. They can't play hockey because they want to win. They don't want somebody like that on their team…It's too bad for those families – they can…go to a different league and play if they want to win every game at the expense of people on their team.

The final group that must be willing to accept the inclusion of individuals who have a disability in physical activity is the individual's family. Family members must be able to recognize the individual's physical abilities and believe that they can be successful. If parents/guardians and families do not believe that their child will be successful, they may choose not to enroll them in physical and recreational activities. Alternatively, they may wish to protect their children from the possibility of facing rejection and resistance from others involved in the program. The following reveals how important it is for family members to accept the inclusion of those with disabilities and make the necessary modifications.

> P/G: When we were at the lake just this summer, we had a family ball game. It was a great success…a game like this is perfect because it really taught everybody lots. I was standing on second base with my granddaughter and she was playing and I was running and I think she said, when [my son] was out, she said oh, I wish they could let [him] not be out, he would have like to have run.

Special Olympic Participation

Parents/guardians were asked to identify both the benefits and the drawbacks associated with participating in the Special Olympics. As was the case for the participants, the parents/guardians identified many of the same benefits when discussing the Special Olympics as they did for physical activities in general. Since these themes have already been presented, only the themes unique to the Special Olympics (i.e., *A Venue for Organized Sports*) will be discussed in detail.

Theme Seven: Benefits of the Special Olympics

Parents/guardians identified three sub-themes regarding the benefits of the Special Olympics: *Social Opportunities*, *Improved Confidence*, and *A Venue for Organized Sports*. The first sub-theme, *Social Opportunities*, refers to the idea that the Special

Olympics is geared as much towards enhancing an individual's social life as it is towards improving their athletic skills and providing an opportunity for physical activity. Individuals who partake in Special Olympic programs not only meet and spend time with the other participants, but they also have the opportunity to interact with coaches and volunteers, thereby broadening their social network. The second sub-theme, *Improved Confidence*, suggests that when individuals continue to participate in physical activities they are more likely to experience improvements in their performance. This, in turn, can result in increases in an individual's self-confidence. The Special Olympics facilitates this continued participation because of its focus on social interaction and having fun.

The primary sub-theme identified by parents/guardians regarding the benefits of the Special Olympics is *A Venue for Organized Sports*. The Special Olympics provides individuals who have a disability the chance to participate in organized or competitive sports at a level where they can be successful. One of the greatest challenges that parents/guardians face when they have a child with a disability is getting their child involved in community and recreational activities. This task becomes even more challenging when their child is interested in participating in organized sports. When children are young, the main goal of organized sports is to provide a fun atmosphere where children can develop athletic skills. However, when children get older and become more skilled, the main goal of organized sport teams shifts from having fun to competition and winning. Individuals who have a disability tend to face more resistance after the focus of the team shifts. Eventually fewer and fewer opportunities are available, which limits their ability to participate in an organized sports program. Special Olympic

programs attempt to address this problem by offering a venue for individuals with disabilities to participate in organized sports with their peers.

The following excerpt describes the significance of the Special Olympics for one family. When the family was experiencing limitations in the community based programs, the Special Olympics provided the opportunity for the children to continue developing their skills and participating in activities with their peers.

> P/G: Certainly they're aware of the difficulties of integrating into a team. We started them both in t-ball say and they did fine in t-ball on a regular team. But beyond that it didn't work…And so then you ran into the issues of what is fair to the team and how competitive is this, all those issues that are huge issues. So we were really, really grateful for the Special Olympics when the kids were little because it did teach them the skills and it gave them the opportunity to compete in circles where they at least had a chance…But even there it just felt like the Special Olympics taught them the skills and the joy of the activity that we couldn't quite find in the regular programs…But to compete in the world of people without disabilities, those doors weren't very wide open really. So I was really grateful for the Special Olympics.

The Special Olympics offers a number of different programs and activities. Therefore, for the following participant who really enjoys participating in athletics, the Special Olympics provided the ideal venue for him to take part in many activities that may otherwise have been unavailable to him.

> P/G: So the kids with special needs are active participants, which is really great because it does provide that venue for them. There's many Special Olympics activities that he's not involved in because he's been too busy. But, you know, there's floor hockey and athletics, but there's something every night of the week if you were to access it, but it's organized sports, you know, it's organized sports.

Theme Eight: Drawbacks of the Special Olympics

The only sub-theme concerning drawbacks to the Special Olympics expressed by the parents/guardians was in regards to the concept of the program as opposed to the program's execution. Most parents/guardians whose children were participating in the

Special Olympics appreciated the fact that the programs were available, because it made it easier for individuals who have a disability to be involved in physical activities. However, the most frequent drawback identified was *Segregation*, and that it is a program designed solely for individuals with disabilities. Therefore, by participating in the Special Olympics, individuals only had the opportunity to interact with their peers who also have a disability. Many felt that this can separate an individual who has a disability from their community. The philosophy of many parents/guardians who have a child with a disability is that their child should have the opportunity to participate in the same activities and programs as other children their age.

Since the Special Olympics are designed primarily to include individuals with disabilities, many parents/guardians who believe strongly in inclusion may choose not to place their children in the program. Nevertheless, until changes have been made to athletic programs such as hockey, basketball, and baseball so that individuals who have a disability are accepted regardless of their skill level, the Special Olympics remains the most readily available venue for them to participate in recreational or competitive team sports.

The following excerpt describes a mother's struggle about whether or not to place her son in the Special Olympics. She had to consider their options: either her son would not be able to participate in the activity or she had to place him in a program that went against everything she stood for with regards to inclusion.

> P/G: He wanted to play baseball so, so badly and I could not figure out how to make this happen without using Special Olympics, which is just so against everything that I go for, so he was in the Special Olympics and I used to absolutely hate it. I would go to the games and I would watch the worst team in the entire universe play and they were having the most wonderful time and they were thoroughly enjoying themselves and I would just sit there and go oh my God,

> oh my God…and you know what, I honestly believe that all the disabilities stood out more…But when he's mixed in with other people without disabilities, you don't even notice him half the time. But like they were all disabled and they all looked ridiculous with what they were doing you know? And yet they were having a great time.

In summary, the thematic analysis of the interview data with the participants and parents/guardians provided considerable insight into how individuals with developmental delays experience physical activity. Participants and parents/guardians identified a number of positive benefits that accrue when they incorporate physical activity into their daily routines. The numerous social, psychological, and physical benefits identified reveal how important physical activity can be in improving an individual's quality of life. Participants and parents/guardians identified many of the barriers that still exist and that prevent or hinder their involvement in physical activity. It is important to acknowledge the barriers individuals with disabilities face so that they can be addressed directly in the hopes that they will eventually be overcome. Participants and parents/guardians documented some of the ways in which they have overcome barriers in the past and the factors have facilitated their inclusion. Identifying both the barriers and facilitators to physical activity can help us understand how challenging it can be for individuals with a disability to participate in activities that many of us take for granted.

Chapter 5: Discussion

The objective of this study was to examine the role that physical activity plays in the lives of individuals with developmental delays. Guiding questions included how they conceptualize the perceived benefits of physical activity, the potential barriers that may restrict their participation, and the factors that help overcome these barriers and facilitate their inclusion. In this chapter a review of the themes that emerged from the interviews and what they reveal about the experiences of individuals with developmental delays concerning physical activity is provided. Findings are linked to previous research in the area and new contributions to the literature are highlighted. Finally, suggestions for future research in the area are presented, as well as recommendations to improve the recreational programs available in the community for individuals with disabilities.

Benefits of Physical Activity

Individuals engage in physical activity to establish social networks within their community as well as to improve their physical and psychological well-being. Results of this study indicate that individuals with developmental delays who participate in physical activity experience certain social benefits, such as a sense of inclusion within their peer group and improved social skills. These benefits are directly attributed to participation in recreational programs that create additional opportunities for social interaction. This finding concurs with the study by Shapiro (2003) in which Special Olympic athletes reported playing with the other members on the team and having fun as two of the top motivators for participating in sports. Given that individuals with developmental delays tend to have fewer friends, engage in fewer social activities, and experience greater levels of loneliness than individuals without disabilities (Modell, et al., 1997), promoting

physical activity in a community setting could be instrumental in the development of social relationships and friendships with other members of their community.

Several psychological benefits were found to be associated with participation in physical activities. Findings indicate that participating in physical activity improves confidence, promotes a sense of normalcy and independence, and helps to reduce stress. Participant reports of improved confidence and reduced levels of stress are consistent with findings of improved psychological benefits previously reported in the literature. For example research has shown that individuals with developmental delays who engage in physical activity experience positive changes in self-esteem, improved perceptions of confidence, positive changes in mood, improved coping abilities, and decreased levels of depression, anxiety, and stress (International Society of Sport Psychology, 1992; Ninot, et al., 2000). In particular, Gibbons and Bushakra (1989) found that children who participated in a Special Olympic track and field event reported higher levels of perceived physical competence and social acceptance than children who did not participate in the event. The current study has identified two additional psychological benefits that have not been found in previous studies, increased independence and a sense of normalcy. Moreover, it is highly probable that these benefits may have emerged in the current study because of its focus on inclusion and inclusive practices.

Participants in the current study believed that incorporating physical activity into their lives helped them control their weight and contributed to increased strength, endurance, and energy. These results are consistent with those that have typically been found in studies investigating the physical benefits of exercise for individuals with developmental delays. Carter et al. (2004) found that an 11-week exercise intervention

designed for individuals with developmental delays resulted in decreases in body weight, blood pressure levels, and resting heart rate. In addition, each of the participants reported increased physical endurance and independence. In summary, past and the present research affirming the physical benefits associated with exercise programs and their ability to prevent or delay the onset of future health problems support the need to develop programs that facilitate the inclusion of individuals with developmental delays in physical activities.

Barriers to Physical Activity

Although previous research has demonstrated the importance of physical activity in maintaining a healthy lifestyle, several barriers that inhibit individuals with developmental delays from participating in community exercise programs and physical activity still remain (Messent, et al., 1999; Messent, et al., 1998; Rimmer, et al., 2004). Barriers identified in previous research included unclear policies that guide community recreation services, lack of funding for recreation activities, insufficient staffing at community centers, unwelcoming environments, limited resources of those wishing to participate in community activities, lack of transportation to and from the facility, and limited selection of physical activities. Many of the barriers identified in the current study have not been revealed previously. This is likely due to participants focusing on internal barriers that are associated with the individual, such as lack of stamina, balance, and the need of supervision, in addition to several known external barriers.

Two of the external barriers identified in the present study, acceptance and program availability, are consistent with past findings. Indeed acceptance emerged throughout the thematic analysis as a benefit, a barrier, as well as a facilitator to physical

activity. Participants indicated that participating in physical activities contributed to a sense of acceptance and inclusion within their peer group and their community. Parents/guardians, on the other hand, did not depict acceptance as a by-product or a benefit of physical activity, but rather as a factor that could either facilitate or hinder the involvement of individuals with disabilities in physical activities or recreational programs. Thus it would appear that acceptance is one of the most important prerequisites to the inclusion of individuals with disabilities in everyday activities, such as physical activities and recreation, but it is often the most difficult to obtain. For any inclusive program to be successful, program coordinators, community members, parents/guardians, and team mates must first believe that individuals with disabilities have both the right and the capabilities to participate alongside their peers. Parents/guardians affirmed the limited selection of organized physical activities and the effect that it has on the ability of individuals with disabilities to participate in physical activity. Both of these barriers can be addressed simply by promoting the community's awareness and understanding of individuals with developmental delays.

The purpose of the larger project, *Inclusion Across the Lifespan*, was to determine how individuals with developmental delays conceptualize their inclusion in family, community, and recreational activities, with particular emphasis on how these experiences differ at various life stages, such as childhood, adolescence, and adulthood. One focus of the present study was to document whether one's perceptions and experiences with regards to physical activity changed as they grew older. Findings revealed that older participants focused more frequently on factors that prevented their participation in physical activity, particularly factors that limited their mobility such as

balance and obesity. This supports the Goodwin and Compton (2004) study in which adults aging with a disability recounted their experiences with physical activity. Their study suggested that as individuals with a disability age, their ability to engage in physical activity becomes even more challenging because the difficulties they experience due to their disability are compounded with the difficulties inherent in the natural aging process.

Facilitators of Physical Activity

There are many factors that can facilitate the inclusion of individuals with disabilities in physical activities. The results from this study indicate that individuals with developmental delays experience greater success with physical activities if they receive additional support from others, if the activities are appropriately modified to accommodate their needs, and if they feel accepted by others involved with the program. However the theme, support from others, was perceived differently by participants than it was by parents/guardians. Participants discussed the support they received from family, friends, and support workers. The type of support included financial aid, transportation, encouragement, and instruction. Parents/guardians, on the other hand, referred only to the support received from support staff, which came largely in the form of organizing fitness programs for older participants and accompanying younger participants to activities. Support staff not only helped the participants by facilitating their inclusion, but they also helped the parents/guardians by sharing some of the responsibility of ensuring that physical activity is a part of the participants' lives.

Previous research has predominately focused on the benefits individuals with disabilities experience when participating in physical activity and the barriers they

encounter. Substantially less research has focused on factors that facilitate their inclusion and how they have overcome potential barriers. Researchers and program coordinators have argued that the Special Olympics provide individuals with disabilities the best opportunity to participate and compete in organized sports (Klein, et al., 1993). Although some of the participants in this study praised the Special Olympics and the positive impact that they have had in their children's lives, others did not perceive these programs as favorably. Thus it would seem that focusing on ways to incorporate some of the features inherent in the Special Olympics, such as acceptance and adaptations, into inclusive programs could become an increasingly important factor to consider in future program development of this sort. The intervention program evaluated by Podgorski et al. (2004) demonstrated how individuals with intellectual disabilities maintained their participation in the exercise regimen and experienced positive benefits to their cardiovascular fitness and strength when they received adequate support from the residential workers. Another study, Carter et al. (2004) demonstrated that with proper adaptations, individuals with disabilities could participate in community recreation programs alongside the general public. The factors identified in these previous studies, as well as those from the current study, provide some important indicators on how to facilitate the inclusion of individuals with disabilities in physical activities, and are applicable for use in both Special Olympic and community-based programs.

Special Olympic Participation

The participants identified a number of benefits associated with participation in the Special Olympics, with particular emphasis on factors influencing their social relationships, such as social opportunities and acceptance and inclusion, and their

psychological well-being, such as a sense of normalcy, improved confidence, and independence. These results are consistent with those identified by Gibbons and Bushakra (1989) and Weiss et al. (2003). Gibbons and Bushakra found that children with mental retardation showed significant improvements on the physical subscale of perceived competence and peer acceptance over children who did not participate. They suggested that individuals may be more confident in their peer relationships, thereby contributing to the development of more reciprocal relationships and sense of inclusion within the community.

Weiss et al. also found that participating in the Special Olympic events contributed to the development of positive social competence and acceptance, physical self-confidence, and community self-sufficiency for individuals with developmental delays. It is interesting to note that in the current study differences exist between the perceptions of the participants and those of their parents/guardians regarding the benefits of the Special Olympics. While the participants identified a host of benefits, their parents/guardians spoke of only a select few. This discrepancy may be due, in part, to the underlying concept of the program and the opinion of some parents/guardians that they segregate the participants from the community.

The results from this study highlight the tension that exists between the need for programs such as the Special Olympics and the concern that these programs promote segregation for individuals with developmental delays. Special Olympic programs play a significant role in the lives of many individuals with developmental delays because they are the most readily available venue for them to participate in recreational or team sports. However, many feel that the existence of segregated programs contradict efforts to

integrate individuals with developmental delays into all aspects of community life (Storey, 2004). In general, community recreation programs do not have the necessary supports in place to facilitate the inclusion of individuals with developmental delays in physical activities. Until equivalent inclusive programs have been developed to replace those available through the Special Olympics, there will continue to be a need for segregated alternatives.

In summary, the results from this study demonstrate that with a few exceptions individuals with developmental delays and their parents/guardians share similar perceptions regarding the benefits derived from physical activity, the barriers that they encounter, and the factors that facilitate their inclusion. Furthermore, their perceptions remain relatively consistent across the lifespan. The results largely support the findings from previous research as well as introduce new concepts regarding the experiences of individuals with disabilities in physical activities.

Future Directions and Recommendations

Recommendations for future practice.

One of the primary objectives of this study was to provide information to families, support workers, and policy makers, based upon the perceptions of the actual participants with developmental disabilities, to consider when developing and enhancing community recreation programs. Parents/guardians provided many useful recommendations for community facilities and schools that would promote the inclusion of individuals with developmental delays in physical activities. First, all facilities and programs must be accessible. Facility accessibility refers not only to ensuring that the building itself is accessible, such as installing wheelchair accessible ramps and handrails, but also to

ensuring that the equipment can be easily adapted to accommodate everyone. When individuals can complete an activity independently, it can provide a significant boost to their self-esteem. Programs, such as swimming, karate, and sport teams, can be made accessible to all individuals interested in participating. Many individuals with disabilities require additional support and accommodated services to participate in physical recreation programs in the community. Therefore, it is important that communities recognize the special needs of individuals with disabilities and that they be willing to make the necessary accommodations to ensure that everyone has access to the benefits that these programs have to offer. These recommendations may serve as a helpful resource when attempting to design programs aimed at promoting physical activity and healthy lifestyles that could potentially meet the needs of all community members.

A key aspect of adapting physical activities is determining an individual's strengths and abilities and then finding activities that draw upon those particular skills. Ensuring that activities in the community are properly modified so that no one is excluded can be an extremely difficult task that requires creativity and imagination. However, it is paramount that the effort be made because being included in recreational activities can have a considerable impact on one's sense of inclusion in their peer group and community. Peers, particularly children, can be a valuable resource when it comes to adapting physical activities because some seem to have a natural ability to adjust the activity to ensure that everyone is able to participate. Having team mates or others involved in the activity provides an additional support that can not only facilitate their participation in the activity, but can also create an atmosphere of acceptance and inclusion.

Regardless of how much advancement is made regarding the inclusion of individuals with developmental delays in community recreational programs, there will most likely always be resistance from some when it comes to competitive team sports. Competitive team sports are oriented towards winning, and coaches, players, and parents/guardians may not be willing to accept anyone who they believe will not contribute to the team. Although the Special Olympics provided an avenue for individuals with disabilities to participate in competitive activities with their peers, it would most likely also be beneficial for them to participate in inclusive activities within the community. Therefore, team-based sports and activities should be developed where the focus is more recreational as opposed to competitive, such as community bowling leagues. These activities would enable individuals with disabilities to interact socially with members of their community, while at the same time participating in activities that could also help to improve their overall skills and health.

Recommendations for future research.

The present study contributed to the existing literature by adopting a qualitative perspective and documenting the experiences of those with developmental delays as they recalled them. By capturing the views and experiences of adolescents and adults with developmental delays across the lifespan, this work provides a more comprehensive understanding of the role that physical activity plays in their lives. Future research needs to continue to explore new ways to facilitate the inclusion of individuals with disabilities in research and to ensure that their voices are heard. The semi-structured interview format employed in this study is the most frequently utilized method in research involving individuals with developmental delays (Mactavish, Mahon, & Lutifiyya, 2000). However,

combining multiple sources of data collection, such as semi-structured interviews and focus groups, may produce more extensive and in-depth data facilitating triangulation and member checks to enhance the credibility of the results (Mactavish, Mahon, & Lutifiyya). Focus groups have been used less frequently than semi-structured interviews with this particular population. The intent of focus groups is to create an environment where individuals can express their perceptions and experiences enabling researchers to enhance their knowledge of a particular topic (Morgan, 1998). Participants who had difficulty expressing themselves during the one-on-one interviews may become more articulate when engaging in an informal conversation with their peers.

The degree to which participants in this study were involved in physical activity ranged from minimal to substantial participation and involvement in Special Olympic programs. This allowed for a wide range of experiences to be documented and detailed perceptions concerning levels of physical activity participation to be examined. Due to the numerous health benefits that individuals experience by being physically active, it is important that individuals with developmental delays living in the community incorporate a moderate level of physical activity in their daily routines. Future research needs to focus on those individuals who do not adhere to the daily recommended level of physical activity, either because of physical limitations or barriers or because of disinterest. Families, support workers, and community facilities must acknowledge the reasons preventing individuals from being physically active and attempt to overcome these barriers. Methods used to promote physical activity could be as simple as deciding to walk as opposed to driving or could be as complex as developing innovative programs

that will be attractive to those who are typically not interested in conventional means of exercise.

Study Limitations and Strengths

The results of this study are limited to the experiences and circumstances of a small sample of individuals with developmental delays in Alberta, Canada. The meaning construed by the participants regarding their involvement in physical activity is influenced by their past experiences. Therefore, the extent to which these results can be applied or transferred to other situations, settings, and populations is dependent on the readers' ability to relate the participants' experiences to their own circumstances. This study contributes to the existing literature by adopting a qualitative perspective and documenting the experiences of those with developmental delays as they recall them. There are relatively few studies that enable individuals with disabilities to share their perspectives and experiences concerning their inclusion and participation in physical activity. Feedback from individuals with developmental delays and their families can be a valuable resource for those developing new programs or adapting new ones.

Conclusion

The research available concerning the physical activity levels of individuals with developmental delays stresses the importance of maintaining an active lifestyle. Individuals with developmental delays are susceptible to a wide variety of health problems that can have a negative impact on their quality of life, and which are directly associated with increased rates of mortality. Since participating in exercise programs has been shown to have physical, psychological, and social benefits, incorporating these activities into the daily routines of individuals with developmental delays is a viable

solution to reduce many of these health risks. Although individuals with disabilities are faced with many barriers inhibiting their participation in physical activities in the community, programs such as the Special Olympics have been developed to provide individuals with disabilities the opportunity to engage in physical activity and experience the benefits of exercise programs. However, participants in this study maintained that there is still a need for community-based programs that not only promote the importance of physical activity, but also ones that stress the importance of including individuals with disabilities. In order for these programs to be successful, certain components must be incorporated. Many individuals with disabilities require additional support and accommodated services to participate in physical recreation programs in the community. Therefore, it is important that communities recognize the special needs of individuals with disabilities and are willing to make the necessary accommodations to ensure that everyone has access to the benefits that these programs have to offer.

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Appendix A: Information Letters and Informed Consent Forms

Summary of Inclusion Across the Lifespan Project for Parents

Hello, my name is Dr. Judy Lupart. I am a professor in the Department of Educational Psychology at the University of Alberta, conducting a research project titled "Inclusion Across the Lifespan" along with my co-investigator, Dr. Vianne Timmons (University of Prince Edward Island) and our research teams. We would like to invite you and your son/daughter/person under your legal guardianship to participate.

The purpose of this research is to examine the experiences children and adults with developmental disabilities have when being included in school and recreation with their nondisabled peers. We would like to talk to your son/daughter/person under your legal guardianship, as well as his/her teacher or employer and yourself about his/her integration into school/work, and leisure activities. These interviews will take approximately 30-45 minutes each.

We would also like to come and visit your son/daughter/person under your legal guardianship at school/work and in some leisure activities. These visits will be scheduled at the convenience of everyone involved and will help us to more clearly understand your son's/daughter's experiences.

At the end of our study, a wrap-up family symposium will be held. This symposium will allow anyone who was involved with our study to provide us with feedback and to gain information about our project.

Results from this study, which will be published in articles and graduate student theses, will ensure that no identifying information of the participants and their families are released. Participation in this project is strictly voluntary and, if you choose to participate, you and your son/daughter/person under your legal guardianship are free to withdraw from the study at any time.

It is hoped that by documenting the stories of individuals with developmental disabilities within the context of current policies, common themes considered to be core to successful inclusion will be identified. These can then be used to form recommendations for future practice in schools, businesses, and leisure settings. The stories told by these individuals will be able to identify the intricate relationship between people with developmental disabilities and the context they live in.

If you have any further questions regarding this study please contact Judy Lupart, Canada Research Chair in Special Education at 492-2198 or Angie Irvine 492-0800.

PARENT/GUARDIAN CONSENT FORM

Research Project Title: Inclusion Across the Lifespan

Investigators: Dr. Judy L. Lupart Educational Psychology (U of A)

Funding Agency: Social Sciences and Humanities Research Council of Canada (SSHRC)

I, _____ agree to let my child participate in the Inclusion Across the Lifespan project. This project has been explained to me. I understand that my son/daughter will be asked some questions regarding his/her inclusion in school/work and leisure settings. These interviews will be recorded and take about 30 minutes. My son/daughter's name and interview will be kept confidential. No one but the researchers will know what my son/daughter says. I do not have to answer any questions if I don't want to. I can stop the interview any time I want. I will keep a copy of the) consent form. If I have any questions I can call (780) 792-0800 for Angie. I understand that I can contact the U of A Research Ethics Board at (780) 492-3751 if I have any concerns about the ethical conduct of this study.

Child's name: _____ Date: _____

Name: _____ Phone: _____

Signature: _____

Appendix B: Interview Guide Questions

Research Questions for Participants.

Questions are aimed at identifying the benefits, barriers, and facilitators of physical activity, and the impact that it has on social relationships.

1. What kind of sports or exercise do you do with your family?

2. What kind of sports or exercise do you do in your community?

3. How often do you do these activities?

4. Where do you go to do these activities?

5. How long have you been doing these activities?

6. What do you like about doing these activities?

7. What do you dislike about doing these activities?

8. How do you feel after taking part in these activities?

9. Are you healthier because of these activities? Why or why not.

10. Has taking part in these activities changed you in any way? How?

11. How does your family support you when you take part in these activities?

12. How do your friends support you when you take part in these activities?

13. Do these activities help you make friends or meet new people? How?

14. Are you as good as, better than, or not as good as your friends at these activities?

15. Is there anything that makes it hard for you to do these activities? If yes, what?

16. Is there any special equipment that you use or need to take part in these activities?

17. What kind of sports or exercise do/did you do during recess at school?

18. What kind of sports or exercise do/did you do during gym at school?

19. How do/did your teachers support you during gym and recess?

20. Is there anything that makes/made it hard for you to do these activities at school?

Special Olympic Participation (Ask if applicable).

21. What sport(s) do you do in the Special Olympics?

22. When did you first start the Special Olympics?

23. Why did you start the Special Olympics?

24. Do you have a coach?

25. What are the good things about being in the Special Olympics?

26. What are the bad things about being in the Special Olympics?

27. How does your family support you in the Special Olympics?

28. How do your friends support you in the Special Olympics?

29. How does you coach help you?

30. How do you feel about you teammates in the Special Olympics?

31. Has being in the Special Olympics changed how other people treat you? If yes, how?

Research Questions for Parents/Guardians.

Questions are aimed at identifying the benefits, barriers, and facilitators of physical activity, and the impact that it has on social relationships.

1. Does your family engage in physical activities together? What kind of activities?

If yes, in what ways is _____ included?

2. Where does _____ usually go to take part in physical activities?

3. How do you think _____ benefits from participating in physical activities?

4. Does engaging in physical activity help _____ make friends/meet new

people?

5. What special provisions, if any, are required to facilitate _____'s participation in physical activities?

6. Are there any challenges that _____ faces with regards to participating in physical activities during school? (past tense for older participants)

7. Are there any challenges that _____ faces with regards to participating in physical activities in the community?

8. What community supports are you aware of that facilitate _____'s involvement in physical activities?

9. What recommendations would you suggest to schools to facilitate _____'s inclusion in physical activities? (past tense for older participants)

10. What recommendations would you suggest to community facilities that would facilitate _____'s inclusion in physical activities?

Special Olympic Participation (Ask if applicable).

11. How did _____ first become involved with the Special Olympics? How long has _____ been involved?

12. Did you notice any difference in _____ after he/she started participating in the Special Olympics?

13. How does _____ interact with his/her teammates?

14. How does _____ interact with his/her coach? (if there is a coach)

15. Does participating in the Special Olympics help _____ make new friends/meet new people?

16. What are the benefits of _____'s participation in the Special Olympics,

if any?

17. What are the drawbacks of _____'s participation in the Special Olympics, if any?

18. Are there any changes that you would like to see in the Special Olympics?